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FREELIVING MARINE NEMATODES FROM SOUTHERN AFRICA

BY

JOHN W. COLES

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By JOHN W. COLES

CONTENTS

Page

Synopsis 4
Introduction 4
Sample data 5
Species studied 8
Distribution of species 8
Descriptive section 9

Family Leptosomatidae

Platycomopsis Ditlevsen, 1926 – Systematic notes 9
Platycomopsis dayi sp. nov. 10
Platycomopsis barba (Inglis, 1964) comb. nov. 13
Macronchus shealsi Inglis, 1964 13
Deontostoma jae (Inglis, 1964) Hope, 1974 15
Deontostoma hopei sp. nov. 16
Thoracostoma campbelli Ditlevsen, 1921 18
Thoracostoma zeae Inglis, 1964 20
Thoracostoma ancorarium Vitiello, 1975 21
Thoracostoma sp. 22

Family Phanodermatidae

Dayellus dayi Inglis, 1964 23
Crenopharynx eina Inglis, 1964 23
Crenopharynx afra Inglis, 1964 24

Family Enoplidae

Enoploides mandibularis sp. nov. 25
Mesacanthoides magna sp. nov. 28
Rhabdodemania nancyae Inglis, 1964 30

Family Oncholaimidae

Oncholaimus problematicus sp. nov. 30
Oncholaimus sp. 33
Filoncholaimus capensis sp. nov. 34
Pontonema yaenae Inglis, 1964 36
Pontonema spp. 36

Family Enchelidiidae

Symplocostomella trichostoma sp. nov. 37
Eurystomina sp. 41
Polygastrophora sp. 42

Family Cyatholaimidae

Gen. et sp. innom. 43

Family Desmodoridae

Spirinia sp. 43

Family Chromadoridae

Parapinnanema sp. 43

Page
Historical account of freeliving marine nematodes from southern Africa 43
List of species reported from southern African waters . . 44
Acknowledgements 48
References 48

SYNOPSIS

Thirty-two species of freeliving nematodes, belonging to nineteen genera and eight families, have been found in eighty-two samples collected from off the coasts of southern Africa by the University of Cape Town Ecological Surveys. Seven species (all belonging to the order Enoplida) are described as new: *Platycomopsis dayi*, *Deontostoma hopei*, *Enoploides mandibularis*, *Mesacanthoides magna*, *Oncholaimus problematicus*, *Filoncholaimus capensis* and *Symplocostomella trichostoma*. The genus *Parabarbonema* Inglis, 1964, is considered synonymous with *Platycomopsis* Ditlevsen, 1926, and *P. barba* Inglis is therefore transferred to the former genus. *Thoracostoma campbelli* Ditlevsen, 1921, originally described from Campbell Island, South Pacific, is redescribed from Luderitz Bay, South West Africa. Species belonging to the genera *Thoracostoma* (one), *Oncholaimus* (one), *Pontonema* (two), *Eurystomina* (one) and *Polygastrophora* (one), not named specifically, are briefly described. Additional notes and measurements are given to ten species previously described from off Cape Province: *Platycomopsis barba* (Inglis, 1964) comb. nov., *Macronchus shealsi* Inglis, 1964; *Deontostoma jae* (Inglis, 1964) Hope, 1974; *Thoracostoma zeae* Inglis, 1964; *Thoracostoma ancorarium* Vitiello, 1975; *Dayellus dayi* Inglis, 1964; *Crenopharynx eina* Inglis, 1964; *C. afra* Inglis, 1964; *Rhabdodemania nancyae* Inglis, 1964 and *Pontonema yaenae* Inglis, 1964.

An historical account is given of freeliving marine nematodes reported from southern Africa, followed by a list of species.

INTRODUCTION

This report is a continuation of work on freeliving marine nematodes collected from South African waters by the University of Cape Town Ecological Surveys, under the direction of Professor J. H. Day. Earlier samples from these surveys were studied and reported on by Inglis (1963, 1964) and Vitiello (1975). I was entrusted with the examination of the remaining samples and the results of this are given below. As found by Inglis the species present are mainly members of the order Enoplida, amongst which are found most of the larger freeliving nematodes. This may reflect the inadequacies of the collecting and sorting techniques used rather than the fauna present. The families of Enoplida represented in the following account are the Leptosomatidae, the Phanodermatidae, the Enoplidae, the Oncholaimidae and the Enchelidiidae. The non-enoplid species found appear to belong to the families Cyatholaimidae, Desmodoridae and Chromadoridae. Of the latter families there are not many specimens available and, as their condition is very poor, it has not been possible to determine them specifically with any degree of certainty.

With the exception of the specimens collected from Luderitz Bay on the coast of South West Africa at 26°S, 15°E (LU 19), the samples were collected from the west, south-west and east coasts of the Republic of South Africa, between 24°S, 34°E and 36°S, 23°E. All these localities (with the exception of the Portuguese East Dredge sample) are relatively close together and according to the work of ecologists and others the water temperature of this region is quite cool and not affected by the warm waters of the Mozambique/Algulhas Currents (Ekmann, 1953).

Thoracostoma campbelli Ditlevsen, 1921, reported here from Luderitz Bay, is the only species in the present samples which has been found in localities outside South African waters. It appears to be widely distributed in the southern hemisphere (originally recorded from off Campbell Island) and is a subantarctic form which also occurs further north in regions where cold-water currents maintain a fairly low temperature. Wieser (1953) found it on the coast of Chile, which is even further away from the type-locality than the present record. It therefore seems probable that the other species described from South African waters also occur in the more southerly regions.

Before the collection of freeliving nematodes was undertaken by the University of Cape Town Ecological Surveys, very little appears to have been done on this fauna from the South African coasts and a historical account will be given later in this report.

Representatives of the species mentioned herein will be deposited in the collections of the British Museum (Natural History).

SAMPLE DATA

Luderitz Bay

LU 19	26°S, 15°E. 10.vii.46.

Saldanha Bay Dredgings

SB 214	33°6′S, 17°56.6′E. In green sand and shell-gravel at a depth of 26 metres, 1.vi.60.
SB 290	33°01′S, 17°57.9′E. In fine khaki-coloured sand at a depth of 9 metres, 29.iv.63.
SB 299	33°02.5′S, 17°57′E. In khaki-coloured sand and shell-gravel at a depth of 26 metres, 30.iv.63 (grab sample).
SB 300	33°01.0′S, 17°58.9′E. In shell-gravel at a depth of 11 metres, 30.iv.63.
SB 304	33°02.5′S, 17°58.9′E. In coarse shell-gravel at a depth of 20 metres, 30.iv.63 (grab sample).
SB 332	33°01.2′S, 17°58.7′E. On a rock substratum at a depth of 13 metres, 25.iv.64.
SB 334	33°01.2′S, 17°59.7′E. On a rock substratum at a depth of 13 metres, 25.iv.64 (grab sample).
SB 336	33°00.3′S, 17°57′E. In fine sand and shell-gravel at a depth of 6 metres, 26.iv.64.
SB 339	33°03.4′S, 18°02.0′E. In fine green sand and shell-gravel at a depth of 7-6 metres, 21.iv.64.
SB 340	33°03.4′S, 18°02.0′E. In fine sand and shell-gravel at a depth of 7 metres, 27.iv.64 (grab sample).
SB 348	33°02.9′S, 18°01.6′E. In shell-gravel and coarse sand at a depth of 13 metres, 29.iv.64.
SB 350	33°02.9′S, 18°01.6′E. In sand and shell-gravel at a depth of 13 metres, 29.iv.64.

False Bay dredgings

FAL 412	34°8.8′S, 18°33.5′E. In fine khaki-coloured sand at a depth of 31 metres, 16.v.61 (grab sample).
FAL 422	34°12.5′S, 18°37′E. In khaki-coloured sand and shell-gravel at a depth of 48 metres, 15.v.61 (grab sample).
FAL 430	34°15.2′S, 18°33.2′E. In shell-gravel at a depth of 41 metres, 16.v.61.

FAL 436	34°15.2′S, 18°33.2′E. In shell-gravel at a depth of 41 metres, 16.v.61 (grab sample).
FAL 449	34°13.3′S, 18°31.3′E. In sand at a depth of 39 metres, 22.v.61 (grab sample).
FAL 613	34°15′S, 18°35′E. In coarse sand and shell-gravel at a depth of 50 metres, 24.ii.64.
FAL 617	34°07′S, 18°35′E. In shell-gravel at a depth of 22 metres, 20.ii.64.
FAL 622	34°08′S, 18°28′E. In white sand at a depth of 26 metres, 21.ii.64.
FAL 630	34°08′S, 18°49′E. On a rock substratum at a depth of 7–9 metres, 21.ii.64.
FAL 633	34°15′S, 18°55′E. In coarse khaki-coloured sand and shell-gravel at a depth of 48 metres, 2.ii.64 (grab sample).
FAL 639	34°10′S, 18°29′E. In fine green sand at a depth of 35 metres, 20.ii.64 (grab sample).
FAL 643	34°06′S, 18°33′E. In coarse white sand and shell-gravel at a depth of 15 metres, 20.ii.64 (grab sample).
FAL 648	34°13′S, 18°39′E. In green mud at a depth of 53 metres, 20.ii.64 (grab sample).
FAL 651	34°06′S, 18°33′E. In sand and shell-gravel at a depth of 15 metres, 20.ii.64.
FAL 654	34°21′S, 18°32′E. In khaki-coloured sand and shell-gravel at a depth of 75 metres, 20.ii.64.
FAL 657	34°21′S, 18°32′E. In khaki-coloured sand and shell-gravel at a depth of 75 metres, 24.ii.64 (grab sample).
FAL 660	34°21′S, 18°37′E. In fine khaki-coloured sand and shell-gravel at a depth of 97 metres, 24.ii.64.
FAL 661	34°07′S, 18°36′E. In sand and shell-gravel at a depth of 26 metres, 20.ii.64.
FAL 666	34°07′S, 18°36′E. In sand and shell-gravel at a depth of 26 metres, 20.ii.64.
FAL 674	34°17′S, 18°36′E. In khaki-coloured sand and shell-gravel at a depth of 66 metres, 24.ii.64 (grab sample).
FAL 676	34°11′S, 18°35′E. In fine khaki-coloured sand at a depth of 42 metres, 25.ii.64.
FAL 679	34°15′S, 18°41′E. In fine khaki-coloured sand at a depth of 40 metres, 25.ii.64 (grab sample).
FAL 684	34°10′S, 18°48′E. In white shelly sand at a depth of 29 metres, 21.ii.64 (grab sample).
FAL 688	34°19′S, 18°31′E. In fine khaki-coloured sand at a depth of 61 metres, 24.ii.64 (grab sample).
FAL 689	34°11′S, 18°41′E. In fine khaki-coloured sand at a depth of 53 metres, 25.ii.64.
FAL 696	34°10′S, 18°43′E. On a rock substratum at a depth of 36 metres, 29.ii.64.
FAL 700	34°11′S, 18°39′E. In coarse sand and shell-gravel at a depth of 44 metres, 25.ii.64. (grab sample).
FAL 704	34°10′S, 18°44′E. In coarse sand and shell-gravel at a depth of 39 metres, 25.ii.64 (grab sample).
FAL 706	34°21′S, 18°37′E. In khaki-coloured sand at a depth of 87 metres, 24.ii.64 (grab sample).
FAL 709	34°05′S, 18°38′E. In coarse sand and clay at a depth of 17 metres, 26.ii.64.
FAL 713	34°05′S, 18°38′E. In coarse green sand and shell-gravel at a depth of 17 metres, 26.ii.64 (grab sample).
FAL 721	34°07′S, 18°45′E. In shell-gravel on a rock substratum at a depth of 20–26 metres, 22.ii.64.
FAL 725	34°12′S, 18°45′E. In fine khaki-coloured sand at a depth of 48 metres, 25.ii.64 (grab sample).
FAL 726	34°07′S, 18°07′E. In coarse sand and shell-gravel at a depth of 26 metres, 26.ii.64 (grab sample).
FAL 729	34°15′S, 18°43′E. In fine khaki-coloured sand at a depth of 54 metres, 25.ii.64 (grab sample).
FAL 731	34°08′S, 18°45′E. In coarse sand at a depth of 29–26 metres, 26.ii.64.
FAL 738	34°06′S, 18°40′E. In coarse sand and shell-gravel at a depth of 29–26 metres, 26.ii.64.
FAL 748	34°14.3′S, 18°29.7′E. In coarse khaki-coloured sand at a depth of 40 metres, 15.ii.65 (grab sample).

FAL 758	34°14.5′S, 18°38.8′E. In khaki-coloured sand at a depth of 53 metres, 17.ii.65 (grab sample).
FAL 772	34°17.0′S, 18°29.2′E. In coarse shelly sand at a depth of 27 metres, 15.ii.65 (grab sample).
FAL 798	34°21.6′S, 18°38.9′E. In green mud and shelly sand at a depth of 87 metres, 22.ii.65 (grab sample).
FAL 806	34°10.7′S, 18°26.3′E. In black mud and hydrogen sulphide at a depth of 18 metres, 17.ii.65 (grab sample).
FAL 832	34°14.3′S, 18°29.7′E. In coarse khaki-coloured sand at a depth of 40 metres, 15.ii.65.

West Coast dredgings

WCD 41	33°6.5′S, 17°56′E. On a rock substratum at a depth of 18–33 metres, 2.v.60.
WCD 71	33°6.5′S, 17°49′E. On a rock substratum at a depth of 91 metres, 22.ix.60.
WCD 74	34°25′S, 17°36′E. In khaki-coloured sand at a depth of 1240 metres, 8.x.60 (grab sample).
WCD 79	34°17′S, 17°53′E. In green sand and mud at a depth of 320 metres, 8.x.60 (grab sample).
WCD 86	33°6.4′S, 17°44.9′E. In green and black mud at a depth of 146 metres, 3.vii.61.
WCD 87	33°6.2′S, 17°49′E. In dark green mud on a rocky substratum at a depth of 88 metres 3.vii.61 (grab sample).
WCD 90	32°5.0′S, 18°16.7′E. In coarse white sand and shell-gravel at a depth of 39 metres, 2.vii.61.
WCD 93	32°5.0′S, 18°16.7′E. In coarse white sand and shell-gravel at a depth of 39 metres, 2.vii.61 (grab sample).
WCD 101	32°5.5′S, 18°17.3′E. In coarse white sand and shell-gravel at a depth of 27 metres, 2.vii.61.
WCD 108	32°08′S, 17°39′E. In fine dark green mud at a depth of 172 metres, 2.vii.61 (grab sample).
WCD 119	33°6.4′S, 17°44.9′E. In green and black mud at a depth of 146 metres, 3.vii.61 (grab sample).
WCD 196	33°03.7′S, 17°45.2′E. In coarse sand and shell-gravel at a depth of 33 metres, 25.iv.64.
WCD 206	33°08.6′S, 17°57.3′E. On a shell substratum at a depth of 50 metres, 29.iv.64 (grab sample).
WCD 210	33°08.4′S, 17°55.1′E. In shelly sand at a depth of 79 metres, 29.iv.64.

South Coast dredgings

SCD 115	34°54.4′S, 22°12.2′E. In coarse sand and shell-gravel at a depth of 107 metres, 26.xi.59.
SCD 134	34°29′S, 21°49.5′E. In grey-green mud at a depth of 73 metres, 26.xi.59.
SCD 136	34°35′S, 21°56′E. In coarse and fine shell-gravel at a depth of 78 metres, 28.viii.60. (grab sample).
SCD 197	34°07.5′S, 23°31.7′E. In fine sand at a depth of 79 metres, 29.xi.60.
SCD 233	36°28.5′S, 21°11′E. In khaki-coloured sand at a depth of 183 metres, 4.xii.60 (grab sample).
SCD 251	34°48′S, 23°39′E. On a rock substratum at a depth of 148 metres, 30.xi.60.
SCD 275	34°51′S, 23°41′E. In khaki-coloured sand at a depth of 183 metres, 20.xi.60.
SCD 298	33°09′S, 28°02′E. At a depth of 84 metres, 6.ii.62 (grab sample). Substratum type unknown.
SCD 303	33°39′S, 27°15′E. In hard sand at a depth of 88 metres, 6.ii.62 (grab sample).
SCD 309	33°59′S, 25°51′E. In coarse shell-gravel and mud at a depth of 50 metres, 9.ii.62 (grab sample).

Portuguese East Dredge

PED 17	24°53′S, 34°56′E.	In fine grey sand and rock at a depth of 55 metres, 19.viii.64.
PED 19	25°07′S, 34°34′E.	In dark sandy mud at a depth of 112 metres, 19.viii.64.

SPECIES STUDIED

Thirty-two species, belonging to nineteen genera and eight families, have been recognized or considered distinct. Of these, seven are described as new, one species (*Thoracostoma campbelli*) is redescribed in detail, brief descriptions are given of six species which could not be named specifically, and additional notes and measurements are given of species originally described from South African waters by Inglis and Vitiello.

DISTRIBUTION OF SPECIES

Species	Locality	Sample nos
Leptosomatidae		
Platycomopsis dayi sp. nov.	Saldanha Bay	SB 348.
	False Bay	FAL 613, 663, 666, 684, 704, 726, 748, 772, 832.
	West Coast dredging	WCD 210.
Platycomopsis barba	False Bay	FAL 617.
	West Coast dredging	WCD 90, 93, 101, 196.
Macronchus shealsi	False Bay	FAL 436, 622, 633, 704, 726, 772, 802, 806, 832.
	West Coast dredging	WCD 196, 206, 210.
	South Coast dredging	SCD 303.
Deontostoma jae	Saldanha Bay	SB 290, 332, 334, 350.
	False Bay	FAL 358, 651.
	West Coast dredging	WCD 41, 74, 101, 196.
Deontostoma hopei sp. nov.	Saldanha Bay	SB 334.
Thoracostoma campbelli	Luderitz Bay, S.W. Africa	LU 19.
Thoracostoma zeae	False Bay	FAL 617, 630, 661, 679.
	South Coast dredging	SCD 298.
Thoracostoma ancorarium	False Bay	FAL 758.
Thoracostoma sp. innom.	False Bay	FAL 832.
Thoracostoma sp. innom.	Portuguese East dredge	PED 19.
Phanodermatidae		
Dayellus dayi	False Bay	FAL 725, 798.
	West Coast dredging	WCD 86.
Crenopharynx eina	False Bay	FAL 613, 633, 689, 700.
	South Coast dredging	SCD 309.
Crenopharynx afra	False Bay	FAL 633, 654, 674, 679, 688, 713, 832.
	West Coast dredging	WCD 86, 119.
	South Coast dredging	SCD 134.
Enoplidae		
Enoploides mandibularis sp. nov.	Saldanha Bay	SB 214, 299, 300.
	False Bay	FAL 660, 706.
	South Coast dredging	SCD 233.

DISTRIBUTION OF SPECIES *(cont.)*

SPECIES	LOCALITY	SAMPLE NOS
Mesacanthion sp. innom.	False Bay	FAL 449.
Mesacanthoides magna sp. nov.	West Coast dredging	WCD 206, 210.
Rhabdodemania nancyae	False Bay	FAL 748.
Rhabdodemania sp. innom.	False Bay	FAL 666.
Oxyonchus sp. innom.	False Bay	FAL 430.
ONCHOLAIMIDAE		
Oncholaimus problematicus sp. nov.	False Bay	FAL 613, 633, 648, 654, 674, 679, 689, 748, 772, 832.
	West Coast dredging	WCD 86, 206.
	South Coast dredging	SCD 134, 197, 233, 275.
Oncholaimus sp. innom.	Saldanha Bay	SB 336.
Filoncholaimus capensis sp. nov.	West Coast dredging	WCD 74, 86, 119.
Pontonema yaenae	False Bay	FAL 748, 832.
	West Coast dredging	WCD 210.
Pontonema sp. innom.	False Bay	FAL 613.
Pontonema sp. innom.	West Coast dredging	WCD 210
ENCHELIDIIDAE		
Symplocostomella trichostoma sp. nov.	West Coast dredging	WCD 86.
Eurystomina sp. innom.	False Bay	FAL 412, 422.
Polygastrophora sp. innom.	South Coast dredging	SCD 251.
Gen. et sp. innom.	Portuguese East dredge	PED 17.
CYATHOLAIMIDAE		
Gen. et sp. innom.	South Coast dredging	SCD 136.
DESMODIRIDAE		
Spirinia sp. innom.	False Bay	FAL 684.
CHROMADORIDAE		
Parapinnanema sp. innom.	False Bay	FAL 725, 748.
	West Coast dredging	WCD 196, 206.

DESCRIPTIVE SECTION

Note on measurements. Only absolute measurements of specimens are given, with a range when more than two specimens of a species are present. The head-diameter is given at the level of the cephalic setae. Measurements of the actual lengths of the spicules (in the males) are given and *not* the chord.

Family **LEPTOSOMATIDAE** DeConinck & Stekhoven, 1935

Genus ***PLATYCOMOPSIS*** Ditlevsen, 1926

Dactylonema Filipjev, 1927; *Parabarbonema* Inglis, 1964.

Ditlevsen (1926) erected the genus *Platycomopsis* for a species collected during the Danish Ingolf Expedition in the Arctic Ocean. He compared it with the genus *Platycoma* Cobb, 1894, which has two flat seta-like structures around each amphid.

Ditlevsen says: 'Cobb named the genus *Platycoma* because two flat hairs of unequal length grow from the inner margin of the anterior border of each lateral organ'. In the species described by Ditlevsen (*Platycomopsis cobbii*) there are four rounded setae situated close together just behind each amphid, and these are about as long as the cephalic setae. He also notes that in *Platycoma* a narrow buccal cavity is present, whereas the specimens he examined lack a buccal cavity, as in *Leptosomatum*. In other respects, it is similar to *Platycoma*. In the present species from off the coast of South Africa there is no apparent buccal cavity, although there is some degree of cuticularization of the walls of the oral cavity.

Inglis (1964) erected the genus *Parabarbonema* for a species (*P. barba*) from other samples collected by the Ecological Surveys. This species has also been found in the present samples. Inglis compared his genus with *Barbonema* Filipjev, 1927, but made no reference to its similarity with *Platycomopsis*. *Barbonema* is characterized by the very long cephalic setae, by an elongate tail, by the absence of a pre-cloacal supplement in the male and by the position of its amphids. The details of the structure of the spicules in *Barbonema* are uncertain, because Filipjev considered that the spicules in the species he described were incompletely developed. *Parabarbonema* is similar to *Platycomopsis* in nearly all respects, more particularly in the form of the cephalic sense organs, in the position of the amphids and in the arrangement of the group of setae behind each amphid. Moreover the spicules are of similar form. Another important resemblance is the presence of a papillate pre-cloacal supplementary organ.

Parabarbonema differs from *Platycomopsis* in minor details, which could really only be considered specific differences. The differences that might be considered distinctive at a generic level are the presence of a cephalic capsule, and the more strongly cuticularized walls of the oral cavity, forming a prominent dorsal tooth. These differences are, however, only a matter of degree. The outline of the cephalic capsule varies somewhat in its clarity, but this may depend on the age of the specimens, as well as on their condition. Consequently, it seems that there is no justification for the retention of the name *Parabarbonema*.

Mawson (1956) reviewed the species of *Platycomopsis*, described two new species from the Antarctic and included a key to all the species known at that time.

The genus *Platycomopsis* Ditlevsen, 1926, may be re-defined as follows: Leptosomatidae with unlobed cephalic capsule variably developed. Labial sense organs papillate. Buccal cavity absent or very narrow, with its walls sometimes cuticularized and modified as onchia. Amphids opening on the posterior edge of the cephalic capsule, when this is seen. Sometimes two to four fairly long setae just behind the amphids. Rows of cephalic setae on the dorso-lateral and ventro-lateral surfaces, as well as on the lateral sides. A papillate supplementary organ anterior to the cloaca in the male. Spicules fairly short and stout.

Platycomopsis dayi sp. nov.

(Fig. 1a–c)

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED. Of the nine specimens available (from different samples) only three males are present. Of these, only one (WCD 206) is reasonably well preserved. Most of the females are also in rather poor condition.

Saldanha Bay: 1♀ SB 348.
False Bay: 1♂ FAL 613; 2♀♀ FAL 726; 2♀♀ FAL 684; 1♂ FAL 704; 1♀ FAL 633; 1 larva FAL 666; 1♀ FAL 748; 1 larva FAL 772; 1♀ FAL 832.
West Coast Dredgings: 1♂, 1♀ WCD 206; 3♂♂, 4♀♀ WCD 210.

SYNTYPES. BM(NH) reg. nos 1975.701–709.

MEASUREMENTS (in mm).

	♂♂	♀♀
Body-length	15·60 – 22·80	21·00 – 22·20
Body-breadth	0·18 – 0·21	0·25 – 0·26
Head-diameter	0·05 – 0·06	0·06 – 0·07
Length of oesophagus	1·67 – 2·42	2·18 – 2·20
Length of tail	0·21 – 0·24	0·21 – 0·26
Distance of nerve-ring from anterior end of body	0·53 – 0·73	0·67 – 0·72
Anal diameter	0·12 – 0·13	0·12 – 0·14
Length of spicules	0·12 – 0·14	—
Length of gubernaculum	0·12	—
Distance of vulva from anterior end of body	—	13·10 – 13·70

DESCRIPTION. The body is very long and slender and the cuticle is quite smooth throughout its length. The head is truncate and without any marked constriction. A distinct buccal-cavity is not apparent – only a very slight thickening, a little wider than the oesophageal lumen, where the walls are slightly cuticularized. In apical view three rod-like thickenings have been observed, one on each lobe of the tri-radiate mouth opening. The cephalic capsule is not very well defined, and only a very faint outline of its posterior extremity was seen in some specimens.

There is a crown of six papillae situated far anteriorly, surrounding the mouth. Posteriorly to this crown there is a ring of ten setae, two of which are situated close together on each of the dorso-lateral and ventro-lateral surfaces of the head and a single seta on each lateral surface (Fig. 1a).

The amphids are, as is usual in this genus, *c.* 30μm from the anterior end of the body. They are somewhat boat-shaped and measure *c.* 22μm in diameter. Just behind each amphid there are three setae situated very close together. They are a little shorter than the cephalic setae. In the hinder part of the cervical region there are longitudinal rows of setae, two rows on the sub-dorsal and two rows on the sub-ventral surfaces. The setae are *c.* 20 μm long, but gradually become shorter and less numerous towards the end of the oesophageal region. Setae also occur on the lateral surfaces, but they are not arranged in such regular rows and are more sporadic in their distribution. They also tend to be shorter. The width of the oesophagus is fairly even throughout its length.

The nerve-ring occurs at about the anterior third of the body. An excretory pore or ventral gland has not been made out.

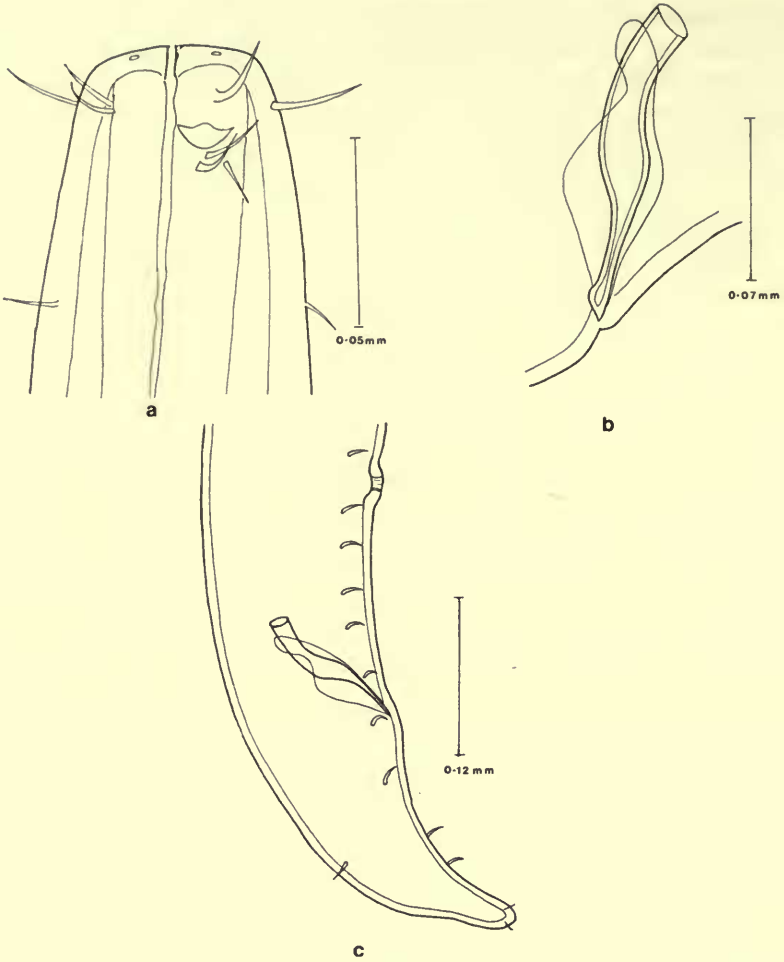


FIG. 1. *Platycomopsis dayi* sp. nov. (a) Anterior end of body (lateral view) ; (b) Spicules and gubernaculum ; (c) Posterior end of male.

Male. The spicules are fairly short and only slightly curved. The proximal end of each spicule is broad and truncate, while the distal end terminates in a point although a rounded expansion occurs just in front of the tips (Fig. 1b). A sheath-like gubernaculum surrounds the spicules and commences quite near to their proximal end. There is a papillate supplementary organ anterior to the cloaca at a distance of approximately the length of the tail. A row of setae occurs on each ventro-lateral surface. Each row commences just anteriorly to the supplementary organ and consists of ten setae, six anteriorly to the cloaca and four on the tail. The tail is conical, with a short cylindrical tip (approximately a third of the tail-length) bearing two small setae. Setae also occur sporadically on other parts of the tail region.

Female. No gravid specimens were found. The vulva is situated a little behind the middle of the body. The tail is similar in shape to that of the male, namely, conical with a short cylindrical tip.

REMARKS. This species is characterized by having three setae situated close together behind each amphid, combined with the size and form of the spicules. It can be readily distinguished from *P. barba*, also present in the samples collected by U.C.T.E.S., by the shape of the tail. Further, in *P. dayi* the tail terminates in a short cylindrical portion, whilst in *P. barba* the tail is blunter with quite prominent setae. This character applies to both sexes.

Platycomopsis barba (Inglis, 1964) comb. nov.

Parabarbonema barba Inglis, 1964

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.
False Bay : 1♀ FAL 617.
West Coast Dredgings : 1♂ WCD 90 ; 1♂, 3♀♀ WCD 93 ; 1♀ WCD 101 ; 2♂♂, 5♀♀ WCD 196.

MEASUREMENTS (in mm).

	♂♂	♀♀
Body-length	9·10 – 9·80	10·60 – 15·80
Body-breadth	0·09	0·09 – 0·14
Head-diameter	0·03	0·03 – 0·04
Length of oesophagus	1·20 – 1·25	1·50 – 1·90
Length of tail	0·17 – 0·18	0·18 – 0·30
Distance of nerve-ring from anterior end of body	0·41 – 0·42	0·45 – 0·56
Anal diameter	0·07 – 0·08	0·08 – 0·12
Length of spicules	0·08	—
Length of gubernaculum	—	—
Distance of vulva from anterior end of body	—	6·80 – 10·30

REMARKS. These specimens agree very well with the description given by Inglis (1964), except that there is much greater variation in the size of the females. This species is readily distinguished from *Platycomopsis dayi* by the shape of the tail, which is lacking a short cylindrical portion as in the case in the other species of this genus.

GEOGRAPHICAL DISTRIBUTION. Coast of South Africa (Inglis, 1964 ; present report.)

Genus ***MACRONCHUS*** Inglis, 1964

Macronchus shealsi Inglis, 1964

(Fig. 2)

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MEASUREMENTS (in mm).

	Sample FAL 622		Sample WCD 206	
	♂♂	♀♀	♂♂	♀♀
Body-length	12·60 – 15·20	11·50 – 24·30	16·50 – 19·40	22·50 – 26·60
Body-breadth	0·13 – 0·19	0·15 – 0·16	0·17 – 0·20	0·14 – 0·24
Head-diameter	0·03 – 0·04	0·04	0·04 – 0·06	0·04 – 0·06
Length of oesophagus	1·12 – 1·45	1·52 – 2·32	1·72 – 2·00	2·05 – 3·11
Length of tail	0·26 – 0·32	0·27 – 0·45	0·37 – 0·51	0·36 – 0·58
Distance of nerve-ring from anterior end of body	0·30 – 0·40	0·40 – 0·58	0·45 – 0·72	0·43 – 0·77
Anal diameter	0·10 – 0·12	0·10 – 0·12	0·12 – 0·18	0·12 – 0·16
Length of spicules	0·16 – 0·22	—	0·29 – 0·32	—
Length of gubernaculum	0·07 – 0·09	—	0·13 – 0·14	—
Distance of first supplement anteriorly from cloaca	0·12 – 0·13	—	0·29 – 0·34	—
Distance of second supplement anteriorly from cloaca	0·30 – 0·31	—	0·65 – 0·76	—
Distance of vulva from anterior end of body	—	6·50 – 12·50	—	12·20 – 15·00
Length of cephalic setae	0·01 – 0·011	0·01 – 0·012	0·01	0·01
Distance of posterior edge of cephalic capsule from anterior end of body	0·02 – 0·03	0·02	0·031 – 0·035	0·031

MATERIAL STUDIED.

False Bay: 6♂♂, 5♀♀, 2 larvae FAL 622; 1♂, 8♀♀, 7 larvae FAL 633; 2♀♀ FAL 726; 3♀♀ FAL 704; 1♀ FAL 436; 2♀♀ FAL 806; 1♂ FAL 832.
West Coast Dredgings: 2♂♂, 6♀♀ WCD 196; 6♂♂, 15♀♀, 2 larvae WCD 206; 6♀♀ WCD 210.
South Coast Dredging: 1♀ SCD 303.

REMARKS. The specimens in the present samples agree in most respects with the description given by Inglis (1964), although there is a much greater variation in the dimensions. In the sample from False Bay (FAL 622), the six males and five females are of approximately similar size to the types, with the exception of one female which measures 24·3 mm in length. The other females vary from 11·5 to 13·0 mm. In the West Coast dredging sample (WCD 206) the females vary from 22·5 to 26·6 mm. The males in this sample are also somewhat larger than those from False Bay. For this reason measurements are given separately for samples FAL 622 and WCD 206. Specimens in the remaining samples fall within these limits of variation.

In the smaller males of the present samples, the anterior supplement contains six to seven rods on each side but in the larger males there are up to ten rods on each side (see Fig. 2). In the male type-specimens of this species there are nine rods on each side of the anterior supplement.

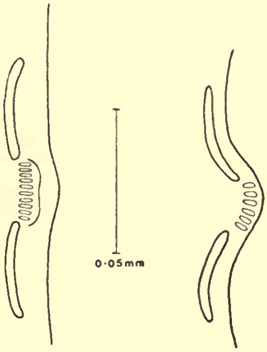


Fig. 2. *Macronchus shealsi* Inglis, 1964. Variation in anterior supplement of male.

GEOGRAPHICAL DISTRIBUTION. Coast of South Africa (Inglis, 1964; present report).

Genus ***DEONTOSTOMA*** Filipjev, 1916
Deontostoma jae (Inglis, 1964) Hope, 1974

Thoracostoma jae Inglis, 1964

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

Saldanha Bay: 1♀ SB 290; 1♂, 4♀♀, 1 larva SB 332; 1♂, 2♀♀, 2 larvae SB 334; 1♀ SB 350.
False Bay: 2♂♂, 2♀♀ FAL 738; 1♀ FAL 651.
West Coast Dredgings: 5♂♂, 2♀♀, 1 larva WCD 196; 1 larva WCD 101; 1♀ WCD 74; 1♂ WCD 41.

MEASUREMENTS (in mm).

	♂♂	♀♀	Larvae
Body-length	8·50 – 11·00	8·60 – 11·30	6·30 – 7·10
Body-breadth	0·15 – 0·20	0·15 – 0·20	0·15 – 0·17
Head-diameter	0·04	0·04	0·04
Length of oesophagus	1·40 – 1·60	1·41 – 1·81	1·31 – 1·64
Length of tail	0·10 – 0·14	0·10	0·08 – 0·10
Distance of nerve-ring from anterior end of body	0·47 – 0·50	0·58 – 0·61	0·44 – 0·49
Distance of eye-spots from anterior end of body	0·11 – 0·13	0·11 – 0·18	0·11 – 0·12
Anal diameter	0·11 – 0·15	0·11 – 0·12	0·11
Length of spicules	0·16 – 0·20	—	—
Length of gubernaculum	0·11 – 0·15	—	—
Distance of vulva from anterior end of body	—	6·90 – 7·20	—

REMARKS. The specimens in the present sample agree well with the description given by Inglis (1964). Some of these are, however, a little longer. The pre-cloacal supplement in the males is situated at about the same position (0·09 mm anteriorly from the cloaca) as in the type-specimens. There are up to six pairs of ventro-lateral papillae present anteriorly to the pre-cloacal supplement. Several gravid females are present and the eggs vary in size from 0·17 × 0·06 to 0·38 × 0·17 mm.

Hope (1974) transferred *Thoracostoma jae* to the genus *Deontostoma* because of the lack of a 'trophis' (an anteriorly directed tooth-like process, usually hollow, arising from the internal surface of the ventral side of the cephalic capsule).

GEOGRAPHICAL DISTRIBUTION. Coast of South Africa (Inglis, 1964; present report).

Deontostoma hopei sp. nov.

(Fig. 3a–c, Pl. 1)

TYPE-LOCALITY. Saldanha Bay, Cape Province, South Africa.

MATERIAL STUDIED.

Saldanha Bay: 1♂, 3♀♀, 2 larvae SB 334.

MEASUREMENTS (in mm).

	♂	♀♀	Larvae
Body-length	22·50	19·60 – 26·10	13·50 – 15·70
Body-breadth	0·13	0·12 – 0·14	0·10 – 0·13
Head-diameter	0·04	0·03 – 0·04	0·03
Length of oesophagus	1·76	1·60 – 1·76	1·50
Length of tail	0·10	0·08 – 0·09	0·07
Distance of nerve-ring from anterior end of body	0·48	0·42 – 0·45	0·40
Anal diameter	0·09	0·09 – 0·10	0·08
Length of spicules	0·14	—	—
Length of gubernaculum	0·07	—	—
Distance of vulva from anterior end of body	—	13·10 – 17·20	—

DESCRIPTION. Readily separated from *Deontostoma jae* (present in the same sample) by being very long and slender. The cuticle is smooth and setae on the body are scarce. The form and arrangement of the cephalic sense organs are typical of the family, although the more anterior crown of six papillae is very indistinct. The ring of ten setae lying further posteriorly are only about 5 μm long. Of these setae there are two on each dorso-lateral and ventro-lateral surface and a single seta on each lateral surface.

The cephalic capsule, although clearly defined, is more feebly developed than in other species of the family so far known to occur in South African waters. There are six posterior lobes to the capsule and these are uneven in outline. The fenestrae are wide between the lobes on the lateral sides, where the amphids are situated (Fig. 3a). No loculi were seen on the posterior lobes. A cephalic ring surrounds the anterior end of the capsule and is very noticeable. There are six uneven rows of short setae situated posteriorly to the cephalic capsule, but they extend only for a short distance along the body. The walls of the buccal-cavity are only slightly cuticularized and no definite teeth have been made out.

An excretory pore has not been observed, but the nerve-ring is quite distinct and encircles the oesophagus at its anterior third. The oesophagus is typical of the family for it is without a bulbous posterior swelling.

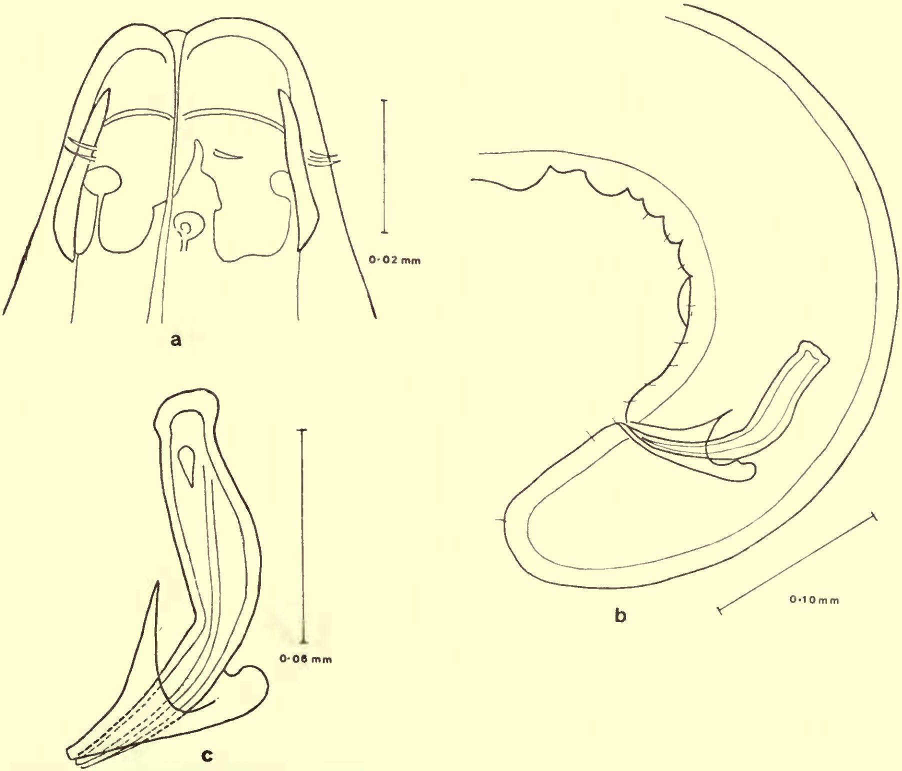


FIG. 3. *Deontostoma hopei* sp. nov. (a) Lateral view of head; (b) Posterior end of male; (c) Spicule and gubernaculum.

Male. The extremities of the testes have been difficult to make out, but they appear to be paired, as is usual in this family. The two spicules are equal and quite distinctive in shape. They are stout and non-alate. They bend sharply towards the ventral side just behind the middle of each spicule (Fig. 3c). A gubernaculum encloses the distal part of the spicules with processes pointing anteriorly. A mid-ventral papillate supplement occurs 0·07 mm in front of the cloaca, and anteriorly to this lie two rows of ventro-lateral papillae (about nine to ten in each row), some with setae projecting from them. They vary in size and the more anterior ones are not very clearly defined. They extend to about 0·33 mm anteriorly from the cloaca. There are also setae surrounding the cloaca. The tail is short and bluntly rounded with a short seta.

Female. The ovaries are paired, opposed and reflexed. One very elongate egg has been observed in the posterior region of the uterus of one specimen and measures 0·9 × 0·12 mm. The vulva is situated posteriorly to the mid-body region and the tail is short and rounded.

REMARKS. *D. hopei* may be distinguished from others of the genus principally by the size and form of the spicules.

This species is named after Dr W. Duane Hope, who has reviewed the genus *Deontostoma* and established its validity (Hope, 1967, 1974).

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (present report).

Genus ***THORACOSTOMA*** Marion, 1870

Thoracostoma campbelli Ditlevsen, 1921

(Fig. 4a–d)

TYPE-LOCALITY. Campbell Island, South Pacific.

MATERIAL STUDIED. Luderitz Bay: 2♂♂, 3♀♀, 1 larva, LU 19.

MEASUREMENTS (in mm).

	2♂♂	♀♀	Larva
Body-length	16·40, 18·20	15·40 – 18·20	13·20
Body-breadth	0·27, 0·27	0·22 – 0·23	0·21
Head-diameter	0·06, 0·05	0·05	—
Length of oesophagus	2·51 2·61	2·55 – 2·62	2·20
Length of tail	0·12, 0·12	0·12	0·10
Distance of nerve-ring from anterior end of body	0·71, 0·71	0·65 – 0·67	0·60
Anal diameter	0·18, 0·17	0·15 – 0·16	0·15
Length of spicules	0·25, 0·27	—	—
Length of gubernaculum	0·14, 0·19	—	—
Distance of vulva from anterior end of body	—	10·00 – 11·10	—

DESCRIPTION. This species is a comparatively large member of the genus *Thoracostoma*, and specimens in the present sample measure up to 18·2 mm in length. The cuticle is fairly smooth, although very fine longitudinal striations appear to be present. Transverse striations have not been made out. As noted by Ditlevsen

(1921), there is a well-marked constriction of the head in the region of the cephalic setae.

The arrangement of the cephalic sense organs is typical of the genus, and there is a crown of six papillae situated far anteriorly and surrounding the mouth. Further back there is a ring of ten short cephalic setae, two of which are close together on each of the dorso-lateral and ventro-lateral surfaces, and a single seta on each lateral surface.

The cephalic capsule extends posteriorly to *c.* 40–45 μm from the anterior end of the body. It is divided posteriorly into six lobes, separated by furrows which widen to form six fenestrae. The two lateral fenestrae in which the amphids are situated are markedly rounded or oval (Fig. 4a). The four fenestrae on the latero-dorsal and latero-ventral sides are slightly less pronounced and more elongate horizontally. On each of the lobes lying between the furrows there are several openings or loculi that vary in shape and number. Sometimes there are three or four loculi, some of which may not be very wide, and sometimes only two transversely elongate openings. As Ditlevsen noted in his specimens there does not appear to be any regular arrangement of the shape and number of the loculi. The anterior region of the cephalic capsule is divided into six lobes, but they can only be seen clearly in an apical view. A fairly well-defined cephalic ring is seen to surround the mid-region of the capsule.

Posteriorly to the cephalic capsule and surrounding the head there are several rows of small granules which form a band *c.* 10 μm wide. There are several setae in the cervical region, although they are not arranged in clearly-defined rows.

There are two prominent cordiform cuticular structures on each lateral side of the tri-radiate mouth. The walls of the buccal cavity are lined with a thickened cuticle.

An excretory pore has not been made out. The nerve-ring is quite pronounced and surrounds the oesophagus fairly far forward. There is no bulbous swelling at the posterior end of the oesophagus.

Male. The testes appear to be paired, but the extremity of one of them could not be clearly seen in the two specimens available. The two spicules are comparatively short and stout and compare well with Ditlevsen's illustration. The gubernaculum which surrounds the distal ends of the spicules also compares quite well with Ditlevsen's description. A mid-ventral supplementary organ lies opposite the mid-region of the spicules, a feature typical of the genus *Thoracostoma.* There are two rows of about twenty to thirty setae situated anteriorly to the cloaca and extending just posteriorly to the latter in the ventro-lateral lines. Anteriorly to the supplement there are two rows of papillae, six pairs in one specimen and seven in the other. There are several small setae on the rounded posterior end of the tail.

Female. The ovaries are paired, opposed and reflexed. Two eggs have been observed in the uterus of one specimen. They measure 0·53 × 0·19 mm and 0·53 × 0·15 mm. The vulva is situated about two-thirds of the total length of the body from the anterior end. The tail is fairly short and the tip bluntly rounded, similar to that in the male.

REMARKS. This species, originally found off Campbell Island, 52°30′S, 169°10′E (Ditlevsen, 1921), is widely distributed in the southern hemisphere. The present

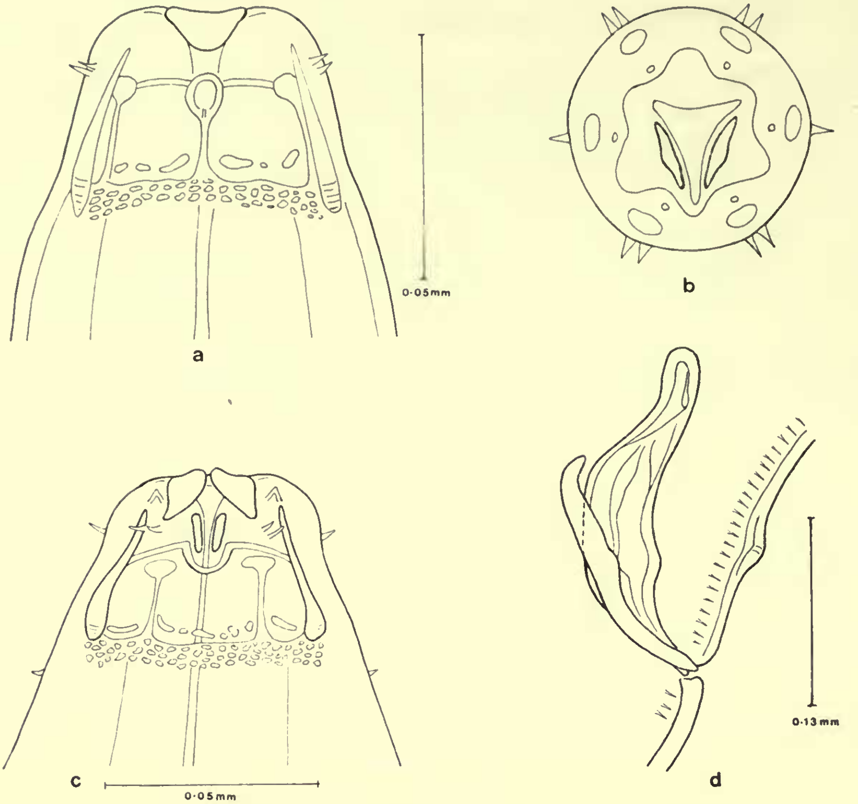


Fig. 4. *Thoracostoma campbelli* Ditlevsen, 1921. (a) Lateral view of head ; (b) Apical view of head ; (c) Ventral view of head ; (d) Spicule and gubernaculum (a and b to same scale).

specimens from Luderitz on the coast of South West Africa agree in nearly all respects with Ditlevsen's description. They, however, lack pigment spots in the cervical region. Ditlevsen's specimens possessed cyathiform pigment spots, a feature quite common in the genus *Thoracostoma*. Ditlevsen also noted that as there was no lens to be seen it may be supposed that it had been diluted by the preservative fluid, or had disappeared in some other way, which often happens to preserved specimens of freeliving nematodes. In the specimens from Luderitz it seems that the pigment spots, as well as the lens, have completely dissolved out.

Geographical distribution. Campbell Island, South Pacific (Ditlevsen, 1921), Kerguelen Islands (Stekhoven & Mawson, 1955 ; Mawson, 1958 ; Platonova, 1958, 1968) ; Macquarie Island (Stekhoven & Mawson, 1955 ; Mawson, 1958), Heard Island (Mawson, 1958), off the coast of Chile (Wieser, 1953), off the coast of South West Africa (present report).

Thoracostoma zeae Inglis, 1964

Type-locality. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

False Bay : 1♂, 3♀♀, 1 larva FAL 617 ; 1♂ FAL 630 ; 2♀♀ FAL 661 ; 1♀ FAL 679.

South Coast Dredging : 1♀ SCD 298.

MEASUREMENTS (in mm).

	♂♂	♀♀	Larva (? 4th stage)
Body-length	17·80 – 18·90	14·20 – 21·20	14·30
Body-breadth	0·24 – 0·25	0·22 – 0·23	0·23
Head-diameter	0·06 – 0·07	0·06 – 0·07	0·05
Length of oesophagus	2·40 – 2·88	2·40 – 3·06	2·20
Length of tail	0·18	0·12	0·12
Distance of nerve-ring from anterior end of body	0·65 – 0·66	0·70 – 0·78	—
Distance of eye-spots from anterior end of body	0·15 – 0·18	0·15 – 0·18	0·16
Anal diameter	0·18 – 0·19	0·14 – 0·16	0·12
Length of spicules	0·31 – 0·32	—	—
Distance of vulva from anterior end of body	—	7·00 – 12·7	—

REMARKS. The specimens in the present samples, although in rather poor condition, agree reasonably well with the description given by Inglis (1964) which was based on only one male and three larval specimens. The specimens studied here, however, are greater in length. The pre-cloacal supplement in the males occurs at about the same position as in the type specimen (*c.* 0·13 mm anteriorly to the cloaca) and the more anterior pair of papillae occurs at *c.* 0·62 mm anteriorly to the cloaca.

Females are recorded for the first time. They are typical of the genus with a very short rounded tail. A gravid specimen is present in sample FAL 617 and has two eggs, one of which measures 0·55 × 0·16 mm and the other 0·54 × 0·18 mm.

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (Inglis, 1964 ; present report).

Thoracostoma ancorarium Vitiello, 1975

TYPE-LOCALITY. Lamberts Bay, Cape Province, South Africa.

MATERIAL STUDIED.

False Bay : 1♂ FAL 758.

MEASUREMENTS (in mm).

Body-length	20·00
Body-breadth	0·32
Head-diameter	0·07
Length of oesophagus	2·87
Length of tail	0·13
Distance of nerve ring from anterior end of body	0·77
Distance of eye-spots from anterior end of body	0·19
Cloacal diameter	0·15
Length of spicules	0·31
Length of gubernaculum	0·17
Distance of supplement anterior to cloaca	0·16

REMARKS. The only available specimen, a male, agrees very closely with the description given by Vitiello (1975), except that pigmented eye-spots are present on the lateral surfaces at a distance of 190 μm from the anterior end of the body. As noted in the case of *T. campbelli*, the presence or absence of eye-spots appears to be variable and therefore unreliable as a specific character.

There are six pairs of pre-cloacal papillae compared with five in Vitiello's specimens. The most anterior pair are, however, small, but distinct.

GEOGRAPHICAL DISTRIBUTION. Off Cape Province, South Africa; Lamberts Bay (Vitiello, 1975); False Bay (present report).

***Thoracostoma* sp.**

(Fig. 5)

MATERIAL STUDIED.

South Coast Dredging: 1♀ (immature) SCD 115.

MEASUREMENTS (in mm).

Body-length	30·70
Body-breadth	0·18
Head-diameter	0·05
Length of oesophagus	2·31
Distance of nerve-ring from anterior end of body	0·55
Length of tail	0·10
Anal diameter	0·13
Length of cephalic setae	0·01
Distance of posterior edge of cephalic capsule from anterior end	0·04

REMARKS. Although this specimen is very long it does not appear to be mature. The cephalic capsule, in having six posterior lobes, is typical of the genus. The two lateral fenestrae are wide and contain very prominent amphids (see Fig. 5). The

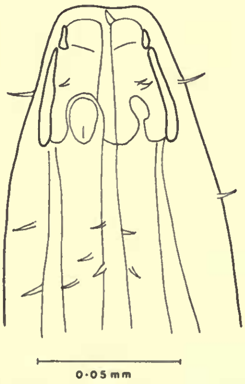


FIG. 5. *Thoracostoma* sp. Lateral view of head.

cephalic sense organs are typical. Cervical setae are present, scattered rather unevenly at the level of the anterior end of the oesophagus. Eye-spots have not been observed. The shape of the tail is typical of the genus, very short and rounded.

Until more specimens become available a more precise identification cannot be attempted.

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (present report).

Family **PHANODERMATIDAE** Stekhoven, 1935

Genus ***DAYELLUS*** Inglis, 1964

Dayellus dayi Inglis, 1964

TYPE-LOCALITY. False Bay, Cape Province, South Africa.

MATERIAL STUDIED.
False Bay: 1♀ FAL 725; 1♂ FAL 798.
West Coast Dredging: 1♂ WCD 86.

MEASUREMENTS (in mm).

	♂ (WCD 86)	♀
Body-length	9·70	9·20
Body-breadth	0·15	0·15
Head-diameter	0·015	0·015
Length of oesophagus	1·50	1·40
Length of tail	0·42	0·35
Distance of nerve-ring from anterior end of body	0·40	0·34
Anal diameter	0·09	0·08
Distance of vulva from anterior end of body	—	5·10
Length of cephalic setae	0·02	0·02

REMARKS. These specimens agree well with the description given by Inglis (1964).

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (Inglis, 1964; present report).

Genus ***CRENOPHARYNX*** Filipjev, 1934

Crenopharynx eina Inglis, 1964

(Fig. 6)

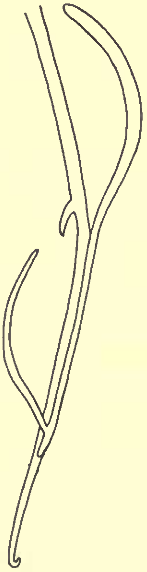
TYPE-LOCALITY. Off South coast of Cape Province, South Africa.

MATERIAL STUDIED.
False Bay: 1♂, 1♀ FAL 613; 1♂, 1♀, 1 larva FAL 633; 1♀ FAL 689; 1♂, 1♀ FAL 700.
South Coast Dredging: 1♀ SCD 309.

MEASUREMENTS (in mm).	1♂	1♀	1 larva
Body-length	7·50	8·00	6·20
Body-breadth	0·14	0·16	0·14
Head-diameter	0·018	0·019	0·017
Length of oesophagus	1·81	1·47	1·14
Length of tail	0·37	0·28	0·28
Distance of nerve-ring from anterior end of body	0·54	0·58	—
Distance of excretory pore from anterior end of body	0·11	0·11	0·08
Anal diameter	0·07	0·10	0·07
Length of spicules	0·38	—	—
Length of gubernaculum	0·07	—	—
Distance of vulva from anterior end of body	—	5·80	—

REMARKS. These specimens very closely resemble the description by Inglis (1964). The spicules in one male specimen are protruded and, as in *C. afra*, the distal ends do not appear to be so needle-like and the tips are slightly hooked (see Fig. 6). The sharp-pointed barb directed towards the distal end of the spicule is clearly seen. The cephalic setae are a little shorter in the present specimens, being *c.* 10 μm in length.

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (Inglis, 1964; present report).



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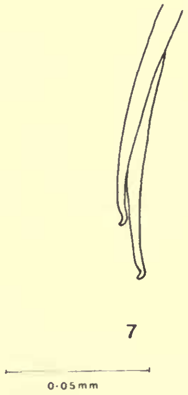

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FIG. 6. *Crenopharynx eina* Inglis, 1964. Distal part of spicules and gubernaculum.
FIG. 7. *Crenopharynx afra* Inglis, 1964. Distal ends of spicules.

Crenopharynx afra Inglis, 1964

(Fig. 7)

TYPE-LOCALITY. Off South coast of Cape Province, South Africa.

MATERIAL STUDIED.

False Bay : 1♂, 2♀♀ 3 larvae FAL 633 ; 4♂♂, 4♀♀ FAL 654 ; 2♀♀, FAL 674 ; 2♀♀, 1 larva FAL 679 ; 1♂, 2♀♀ FAL 689 ; 1♀ FAL 713 ; 1♀ FAL 832.
West Coast Dredging : 4♂♂, 3♀♀ WCD 86 ; 3♂♂, 8♀♀, 2 larvae WCD 119.
South Coast Dredging : 1♀ SCD 134.

MEASUREMENTS (in mm).

	♂♂	♀♀	Larvae
Body-length	7·50 – 8·40	7·60 – 10·00	6·50 – 6·80
Body-breadth	0·22 – 0·26	0·22 – 0·25	0·18 – 0·22
Head-diameter	0·02 – 0·025	0·02 – 0·03	0·02 – 0·021
Length of oesophagus	1·68 – 1·90	1·67 – 1·85	1·50 – 1·52
Length of tail	0·40 – 0·49	0·38 – 0·47	0·40 – 0·42
Distance of nerve-ring from anterior end of body	0·44 – 0·53	0·49 – 0·55	0·48 – 0·50
Distance of excretory pore from anterior end of body	0·13 – 0·15	0·12 – 0·15	0·12 – 0·16
Anal diameter	0·11 – 0·12	0·10 – 0·11	0·10
Length of spicules	0·40 – 0·49	—	—
Length of gubernaculum	0·07 – 0·08	—	—
Distance of vulva from anterior end of body	—	4·00 – 5·64	—

REMARKS. This species occurs in nine samples, and all the specimens compare well with the description by Inglis (1964), who had only one male and one female at his disposal. In one of the males the spicules protrude from the cloaca and they do not appear to narrow like a needle at the distal ends, as they do when completely enclosed in the body (see Fig. 7). The slight swelling of the spicules at the point where they narrow, as noted by Inglis, was seen in some specimens, but with difficulty. The cephalic setae vary from 0·09 to 0·012 mm.

Several gravid female specimens are present. Up to five eggs occurred in one specimen and they varied in size from 0·20 × 0·08 to 0·28 × 0·11 mm.

Family **ENOPLIDAE** Baird, 1853

Genus ***ENOPLOIDES*** Saveljev, 1912

Enoploides mandibularis sp. nov.

(Fig. 8a–c)

TYPE-LOCALITY. Saldanha Bay, Cape Province, South Africa.

MATERIAL STUDIED.

Saldanha Bay : 1♀ SB 214 ; 5♂♂, 3♀♀ SB 299 ; 4♀♀ SB 300.
False Bay : 1♀ FAL 706 ; 1♂, 1♀ FAL 660.
South Coast Dredging : 1♂ SCD 233.

SYNTYPES. BM(NH) reg. nos 1975.809–820.

MEASUREMENTS (in mm).

	♂♂	♀♀
Body-length	4·80 – 6·40	3·80 – 5·70
Body-breadth	0·20 – 0·24	0·19 – 0·23
Head-diameter	0·05 – 0·06	0·05 – 0·06
Length of oesophagus	1·00 – 1·10	0·72 – 1·01
Length of tail	0·32 – 0·40	0·21 – 0·36
Anal diameter	0·09 – 0·10	0·06 – 0·08
Length of spicules	0·40 – 0·46	—
Distance of pre-cloacal supplement anteriorly from cloaca	0·32 – 0·36	—
Distance of vulva from anterior end of body	—	1·80 – 2·50

DESCRIPTION. The body is of even width throughout most of its length and is of average size for this genus. The head has high lips, whilst the tail is long and tapering. The cuticle is transversely striated and the striations are evident on the head and lip regions – a characteristic feature of the genus.

Surrounding the tri-radiate mouth, just posteriorly to the base of the lips, there is a crown of six setae, each *c.* 10 μm long. Further posteriorly on the head there are two setae situated close together on each dorso-lateral and each ventro-lateral surface. One of each pair is *c.* 30 μm long and the other *c.* 20 μm long. A single seta *c.* 30 μm long is also situated on each lateral surface at the same level. In the males, sub-cephalic setae (*c.* 20 μm long) are also present in eight bundles of two to four setae at the base of the cephalic capsule. As the number of setae is not regular, it seems possible that some have become lost during fixation or by some other cause. Sub-cephalic setae also occur in the females, but they are rather irregular in their distribution. Additional setae are also sometimes present on the cuticle at the level of the anterior end of the oesophagus in both sexes.

The cephalic capsule is well defined and ornamented with granular markings. Its posterior extremity lies at *c.* 60–70 μm from the anterior end of the body. The three mandibles, each of which is *c.* 30 μm in length, are of the 'solid' type and expand laterally at the anterior end into two laterally-directed arms. There is also a broad central expansion on the side facing the buccal cavity (see Fig. 8b). A slender tooth (about half the length of the mandibles) arises from the inner surface of the base of each mandible along the onchial cavity. The teeth appear to be of equal length. The cephalic ring is well defined with processes extending anteriorly on either side of each mandible (see Fig. 8a). Amphids were not observed.

The oesophagus is of the form usually found in the genus *Enoploides*. The nerve-ring is very difficult to make out and has been seen only in a few specimens where it encircles the oesophagus at its anterior third (at *c.* 0·45 mm from the anterior end of the body). An excretory pore was not observed.

Male. The spicules are long, of simple form and about one and a third as long as the length of the tail. Their distal ends are pointed with a slight swelling on the ventral side shortly before the extremity. A very short gubernaculum is weakly developed (Fig. 8c). A tubular supplement is situated mid-ventrally (*c.* 0·1 mm in length) *c.* 0·35 mm anteriorly from the cloaca.

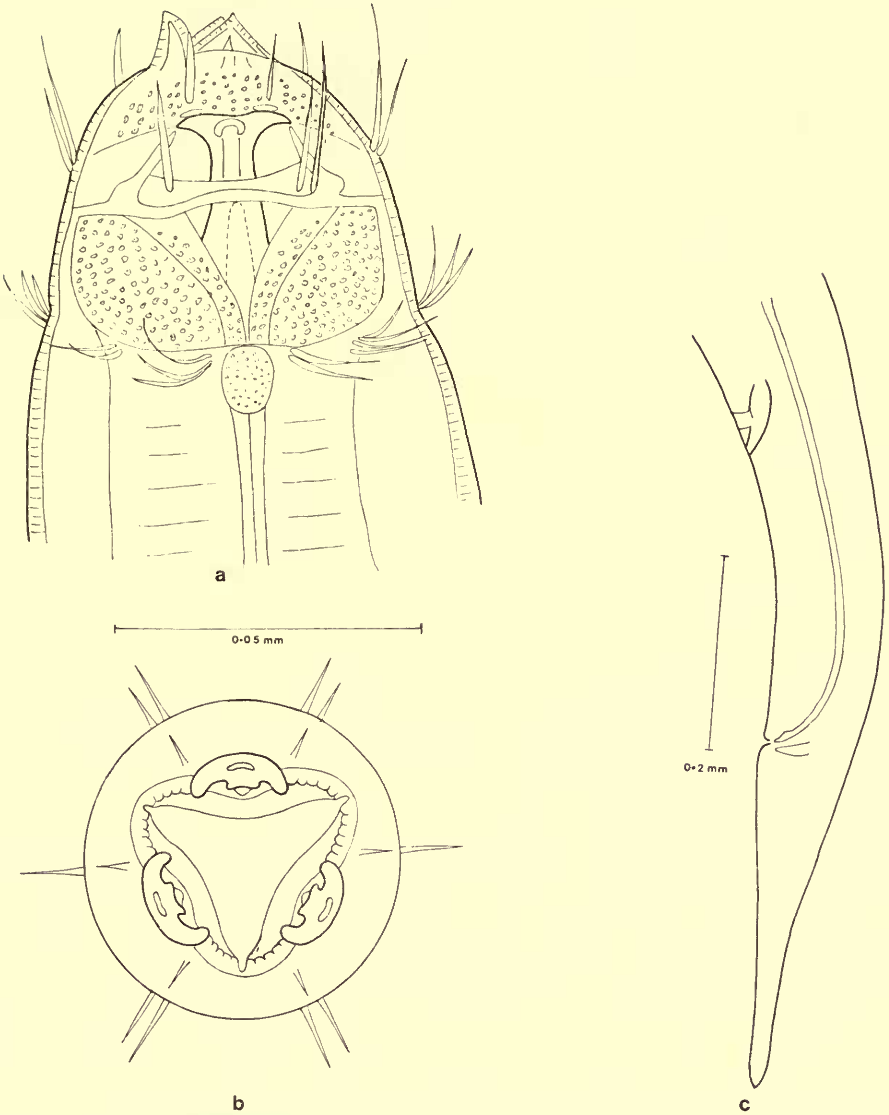

Fig. 8. *Enoploides mandibularis* sp. nov. (a) Anterior end of body (dorso-lateral view); (b) Apical view of head; (c) Posterior end of male (a and b to same scale).

Female. The ovaries are paired, opposed and reflexed. Several gravid specimens are present in the samples, each specimen with up to four eggs. They measure *c.* 0·15 × 0·12 mm. The vulva is situated a little anteriorly to the middle of the body.

Remarks. This species is characterized by the form of the mandibles, combined with the relatively long spicules when compared with the length of the tail and the weakly-developed gubernaculum.

Geographical distribution. Off Cape Province, South Africa (present report).

Genus *MESACANTHOIDES* Wieser, 1953

Mesacanthoides magna sp. nov.

(Fig. 9a–b)

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

West Coast Dredgings : 3♂♂, 9♀♀ WCD 206 ; 1♀ WCD 210.

SYNTYPES. BM(NH) reg. nos 1975.821–830.

MEASUREMENTS (in mm).

	♂♂	♀♀
Body-length	12·20 – 15·50	11·50 – 17·20
Body-breadth	0·20 – 0·22	0·17 – 0·25
Head-diameter	0·12 – 0·13	0·05 – 0·08
Length of oesophagus	2·15 – 2·50	2·00 – 2·50
Length of tail	0·175 – 0·185	0·19 – 0·32
Anal diameter	0·085 – 0·090	0·10 – 0·14
Length of spicules	0·65 – 0·81	—
Length of gubernaculum	0·08 – 0·10	—
Distance of vulva from anterior end of body	—	6·80 – 9·90

DESCRIPTION. This species is very large compared with all those previously described and assigned to this genus. The body is of even width throughout most of its length. The head is truncate. The tail is conical, terminating in a short cylindrical portion in both sexes, not normally bent dorsally as shown in Fig. 9b. The cuticle is finely striated transversely.

The three lips are high and prominent. Surrounding the mouth there is a crown of six, short, stout setae *c.* 10–15 μm in length. The arrangement of the cephalic setae surrounding the head more posteriorly is typical of the family, inasmuch as two lie close together on each dorso-lateral and ventro-lateral surface and a single seta on each lateral surface – ten setae in all. One of each pair of setae on the dorso-lateral and ventro-lateral sides is shorter than the remainder, being *c.* 40 μm long. The longer setae, including those on the lateral surfaces vary from 50 to 100 μm in length. Sub-cephalic setae have been seen only in the males. They are *c.* 40 μm long and occur on or near the posterior edge of the cephalic capsule. In one case three setae were seen close together, whilst of the remainder only two were near each other. It has not been possible to be certain about the arrangement of these setae around the body, as some appear to be missing.

The cephalic capsule is well defined and ornamented with fine granules. Larger pigmented granules also occur in some specimens. The posterior extremity of the capsule lies at 0·13 mm from the anterior end of the body. The three mandibles are large (*c.* 45–50 μm in length). They are of the 'solid' type and sculptured, as in other species of this genus. As noted by Wieser (1959) in *M. sinuosus*, there is an anterior medium segment set off from the remainder of the mandible. There are also present small apophyses on the external sides of the tips. Arising from the inside base of each mandible, and curving inwards, is a very prominent tooth.

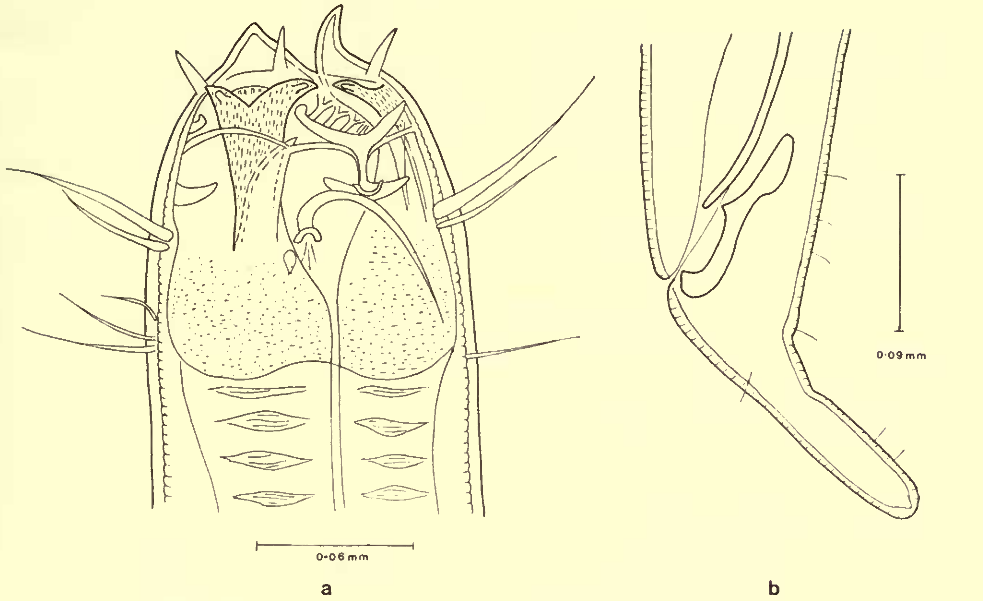

FIG. 9. *Mesacanthoides magna* sp. nov. (a) Anterior end of body ; (b) Posterior end of male.

The three teeth are of about equal size and about half the length of the mandibles. The cephalic ring surrounds the head at about the level of the mid-region of the mandibles, but it appears to form an indentation, indicated posteriorly between the mandibles, to join a small curved, cup-like cuticular structure at about the level of the cephalic setae. On the other hand, the cup-like structure might be a mere fold at the base of the indentation of the cephalic ring. Surrounding each of the cup-like structures there is a transversely elongate cuticular thickening. Lying anteriorly to the points where the ring curves posteriorly a crescentic space in the wall of the buccal-cavity is to be seen between each mandible. Arising from the anterior margins of these spaces are finger-like extensions. The amphids are situated near the bases of the lateral cephalic setae. They are pyriform and rather difficult to make out.

The oesophagus is of even thickness throughout its length. Its outer walls have a wavy outline. The nerve-ring was very difficult to make out and was seen only in one specimen. In this specimen (a female) it occurs at 0·47 mm from the anterior end of the body. A ventral gland or excretory pore has not been made out.

Male. The spicules are long and narrow and of equal length. They are not very prominent and poorly cuticularized. The gubernaculum consists of a pair of curved elongate cuticular structures. In the middle region of each gubernaculum the ventral surface gives rise to a sharply-pointed triangular projection, and the distal end of each gubernaculum is somewhat curved ventrally (Fig. 9b). Several setae are scattered on the tail including the posterior cylindrical portion. A vestigial short tubular supplement lies in the median line at *c.* 0·12 mm anteriorly to the cloaca, but it was seen in only one specimen.

Female. The ovaries are paired, opposed and reflexed. The vulva occurs a little anteriorly to the middle of the body.

REMARKS. This species is distinguished from others known to belong to the genus *Mesacanthoides* by its very large size (about twice the length of those previously described), the length of the spicules, the form of the gubernaculum and the structure of the head.

GEOGRAPHICAL DISTRIBUTION. Off Cape Province, South Africa (present report).

Rhabdodemania nancyae Inglis, 1964

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

False Bay: 1♂ FAL 748.

MEASUREMENTS (in mm).

Body-length	5·00
Body-breadth	0·08
Head-diameter	0·02
Length of oesophagus	0·57
Length of tail	0·16
Distance of nerve-ring from anterior end of body	0·27
Distance of excretory pore from anterior end of body	0·22
Cloacal diameter	0·05
Length of spicules	0·07
Length of gubernaculum	0·04

REMARKS. The male specimen present in this sample is a little larger than the specimens originally described by Inglis (1964), but there is no doubt that it belongs to the same species. The buccal-cavity is typically conical, 20 μm deep. The longer cephalic setae are *c.* 15 μm. The shape of the spicules and gubernaculum and the form of the tail agree very well with the original description.

GEOGRAPHICAL DISTRIBUTION. Off the coast of South Africa (Inglis, 1964; present report.)

Family **ONCHOLAIMIDAE** Baylis & Daubney, 1926

Genus ***ONCHOLAIMUS*** Dujardin, 1845

Oncholaimus problematicus sp. nov.

(Fig. 10a–d)

TYPE-LOCALITY. False Bay, Cape Province, South Africa.

MATERIAL STUDIED.

False Bay: 2♀♀ FAL 613; 2♀♀ FAL 633; 1♀ FAL 648; 1♂ 1♀ FAL 654; 1♀ FAL 674; 1♂ 3♀♀ FAL 679; 1♂ FAL 689; 2♀♀ FAL 748; 1♀ FAL 772; 1♀ FAL 832.

West Coast Dredgings: 3♀♀ WCD 86; 5♀♀ WCD 206.
South Coast Dredgings: 2♂♂ SCD 134; 1♂ 22♀♀ SCD 233; 2♀♀ SCD 197; 1♂ SCD 275.

MEASUREMENTS (in mm).	♂♂	♀♀
Body-length	6·00 – 8·90	6·40 – 9·90
Body-breadth	0·18 – 0·31	0·23 – 0·32
Head-diameter	0·05 – 0·06	0·05 – 0·06
Length of oesophagus	0·80 – 0·91	0·77 – 0·95
Distance of nerve-ring from anterior end of body	0·42 – 0·45	0·42 – 0·50
Distance of excretory pore from anterior end of body	0·11 – 0·15	0·13 – 0·15
Length of tail	0·20 – 0·30	0·24 – 0·32
Anal diameter	0·063 – 0·08	0·08 – 0·10
Length of spicules	0·09 – 0·12	—
Distance of vulva from anterior end of body	—	4·60 – 6·90

DESCRIPTION. This species appears to belong to the '*Paralangruensis*-group' of the genus, as described by Wieser (1953), because the tail is more or less straight and slender and of three or more anal diameters in length, of which more than the distal half is cylindrical. The cuticle is smooth and setae occur on the body principally on the tail as well as in the cervical region, where they are not very numerous or conspicuous. There is a crown of papillae around the mouth and a ring of short setae *c.* 6–8 μm in length further posteriorly. The arrangement of these cephalic setae is typical of the family, i.e. two on each dorso-lateral and ventro-lateral surface and a single seta on each lateral surface.

The buccal cavity is large, measuring up to 0·07 mm in length and 0·04 mm in width. There are three teeth present in the cavity, one dorsally and two sub-ventrally. The two sub-ventral teeth are slightly unequal in size, as is usual in this genus, the shorter one about as long as the dorsal tooth. In one of the samples (FAL 679) a female specimen had all three teeth more or less of equal size. In all other respects, however, it compares well with the other specimens (Fig. 10a–b). The amphids are somewhat boat-shaped and quite readily seen. They are 10–15 μm in diameter and occur at about the level of the middle region of the buccal-cavity.

The oesophagus is typical of the family in being without any distinct posterior swelling. The excretory pore lies at a distance of twice the length of the buccal-cavity from the anterior extremity of the body, whilst the nerve-ring surrounds the oesophagus at a distance of approximately half its length.

Male. The spicules are paired, simple and slightly curved ventrally. The proximal ends are a little expanded and knob-like while the distal ends are simply pointed. A gubernaculum was not detected. There are two longitudinal rows of setae (about 15–18) one on each side of the cloacal region. A little more than half the length of the tail is cylindrical and rather narrow, and as stated above setae are scattered over this region.

Female. There is a single reflexed ovary and the vulva occurs posteriorly to the middle of the body. Several gravid specimens are present. Up to five eggs have been seen in the uterus. They are all approximately of the same size, the largest

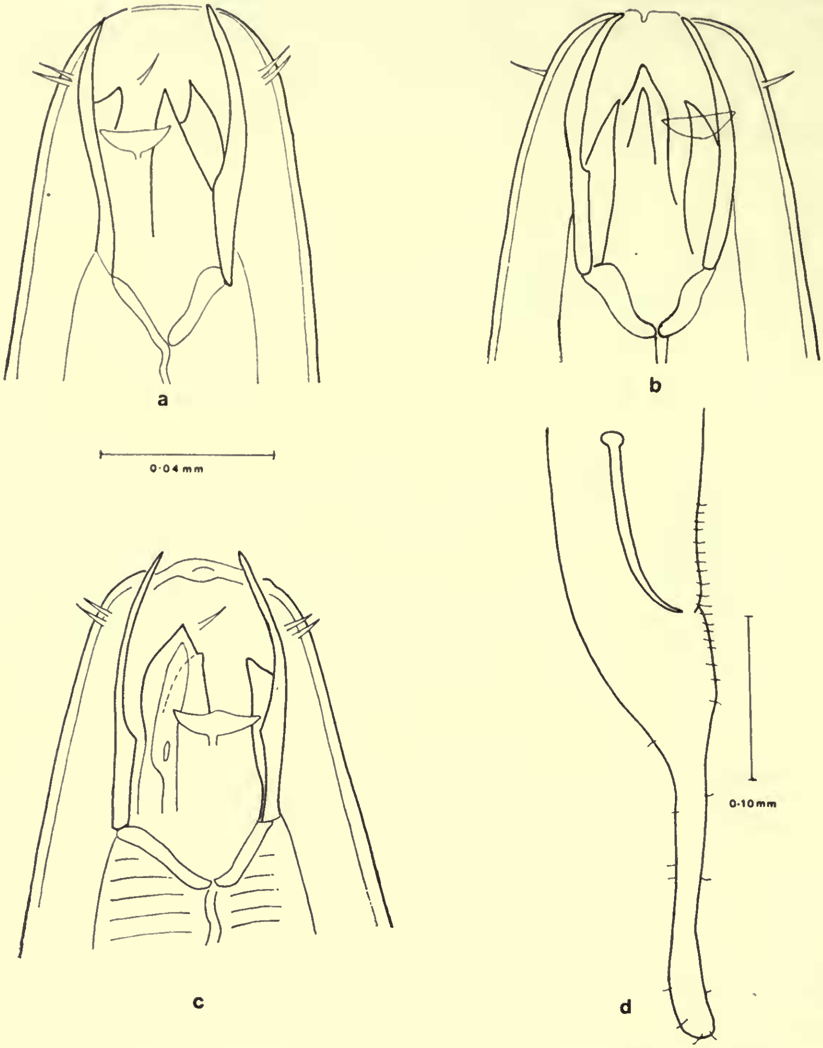

FIG. 10. *Oncholaimus problematicus* sp. nov. (a–b) Lateral view of head in two specimens showing variation in position of teeth (from same sample); (c) Head of a specimen from a different sample; (d) Posterior end of male (a, b and c to same scale).

of which measured 0·15 × 0·12 mm. A Demanian system is present. Although all the details could not be made out, a uvette was clearly seen. It is evenly rounded and similar to that found in *O. brachycercus* and illustrated by Rachor (1969). The efferent pores of the system on the lateral sides occur at *c.* 0·35–0·40 mm anteriorly to the anus, where the body is a little swollen.

REMARKS. This species differs from others belonging to the '*Paralangruensis*-group' of the genus *Oncholaimus* in the greater length of the spicules, combined with the total length of the worm, in the position of the excretory pore and in the size and arrangement of the sub-ventral teeth.

As noted above, the difference in length of the sub-ventral teeth is not very great and in one specimen they are more or less equal. The genus *Metaparoncholaimus* De Coninck & Stekhoven, 1933, is characterized by the two sub-ventral teeth being equal, by having a single ovary and by the presence of a Demanian system. The present species has, nevertheless, been compared also with those assigned to *Metaparoncholaimus*. It appears that the differences between the species belonging to the '*Paralangruensis*-group' of *Oncholaimus* and to *Metaparoncholaimus* are not very great, and a close study might possibly show them to be synonymous.

GEOGRAPHICAL DISTRIBUTION. Off Cape Province, South Africa (present report).

Oncholaimus sp.

MATERIAL STUDIED.

Saldanha Bay: 2♀♀ SB 336.

MEASUREMENTS (in mm).

	2♀♀
Body-length	3·00, 3·30
Body-breadth	0·07, 0·08
Head-diameter	0·027, 0·03
Length of oesophagus	0·42, 0·46
Distance of nerve-ring from anterior end of body	0·19, 0·22
Distance of excretory pore from anterior end of body	0·07, 0·08
Length of tail	0·12, 0·13
Anal diameter	0·03, 0·04
Distance of vulva from anterior end of body	2·17, 2·40

DESCRIPTION. This species is very similar to *Oncholaimus problematicus*, except that it is much smaller (less than half the average length of the other species). Males have not been found and the two females are mature. One of them is gravid, the larger specimen having three eggs in the single uterus. These eggs measure *c.* 0·10 × 0·05 mm. A Demanian system is present and the exit pores are situated at approximately the tail length distance anteriorly from the anus. Amphids are present at the level of the posterior part of the buccal-cavity. They are boat-shaped, as in *O. problematicus*, and are *c.* 8 μm in width. The cephalic setae are about a fifth of the corresponding head-diameter in length (6 μm). There are several longitudinal rows of short setae in the cervical region.

Because no males have been found and the females are different in length from the species described above, this unnamed species must be considered a *species inquirendum*, until males are studied. The three teeth in the buccal-cavity are about the same size, their apices occurring at about the same level, as in some specimens of *O. problematicus*. As noted above this is, however, a characteristic of the genus *Metaparoncholaimus*.

GEOGRAPHICAL DISTRIBUTION. Saldanha Bay, Cape Province, South Africa (present report).

Genus ***FILONCHOLAIMUS*** Filipjev, 1927

Filoncholaimus capensis sp. nov.

(Fig. 11a–b)

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

West Coast Dredgings : 1♀ WCD 74 ; 2♂♂ 5♀♀ WCD 86 ; 2♂♂ 2♀♀ WCD 119.

SYNTYPES. BM(NH) reg. nos 1975.855–859.

MEASUREMENTS (in mm).

	♂♂	♀♀
Body-length	6·10 – 7·80	8·20 – 10·50
Body-breadth	0·11 – 0·14	0·14 – 0·20
Head-diameter	0·04	0·04 – 0·05
Length of oesophagus	0·90 – 1·15	1·00 – 1·27
Distance of nerve-ring from anterior end of body	0·33 – 0·42	0·42 – 0·50
Distance of excretory pore from anterior end of body	0·14 – 0·15	0·14 – 0·18
Length of tail	0·40 – 0·53	1·13 – 0·90
Anal diameter	0.19	0·075 – 0·09
Length of spicules	0·19 – 0·20	—
Length of gubernaculum	0·06 – 0·07	—
Distance of vulva from anterior end of body	—	3·90 – 5·50

DESCRIPTION. The body is slender, being of even width throughout most of its length. The tail is long and filiform in both sexes, more especially in the female. The cuticle is quite smooth. The setae on the body occur principally in the cervical region and on the tail of the male, but they are never very numerous nor prominent.

The arrangement of the cephalic sense organs is typical of the family, i.e. a crown of six papillae near the mouth and a ring of ten setae, each *c.* 10µm in length, situated further posteriorly on the head. Two of these setae lie close together on each side of the dorso-lateral and each of the ventro-lateral surfaces, and a single seta is situated on each lateral surface.

The buccal-cavity is large, measuring from 0·055 × 0·033 to 0·08 × 0·03 mm. The dorsal and subventral teeth are all approximately of similar length, and they extend anteriorly to near the level of the cephalic setae. The amphids are situated at about a level with the anterior ends of the teeth. They are oval and measure *c.* 15 µm in diameter (Fig. 11a).

The ventral gland is not very prominent, but it has been seen in most of the specimens. The position of the excretory pore is more or less constant, situated at a distance of *c.* 0·14 mm from the anterior end of the body in nearly all the specimens examined. The oesophagus very gradually widens towards its posterior end, but is without a distinct bulb. The nerve-ring surrounds the oesophagus just anteriorly to the middle of its length.

Male. The spicules are long and somewhat curved. The distal ends are claw-like, while the proximal extremities are slightly expanded and blunt. The gubernaculum

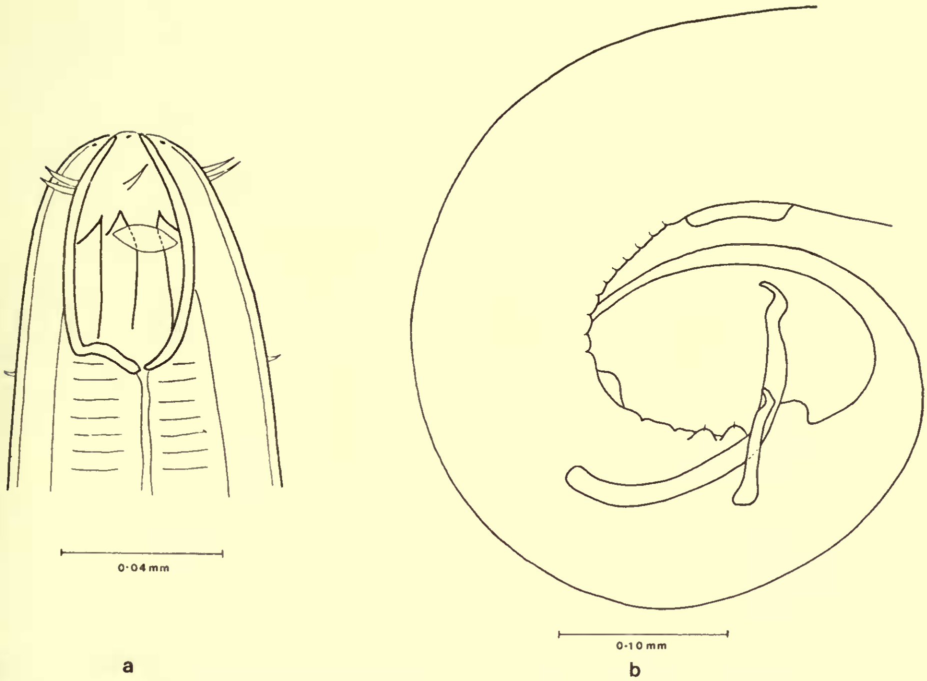

FIG. 11. *Filoncholaimus capensis* sp. nov. (a) Lateral view of head; (b) Posterior end of male.

consists of two simple pieces which are similar in shape to the spicules (Fig. 11b). There are two precloacal papillate supplements situated in the median line resembling those in *F. ditlevseni* Kreis, 1932. One lies at a distance of *c.* 0·08 mm in front of the cloaca and the second at *c.* 0·13 mm further on. The more anterior supplement is larger and measures *c.* 0·05 mm in length. There are two pairs of setae situated on papillae quite close to the cloaca, and there are small setae scattered over the tail. Posteriorly to the cloaca the tail narrows suddenly and throughout most of its length it is filiform.

Female. The ovaries are paired, opposed and reflexed. The vulva is situated approximately in the middle of the body. The tail is very long and filiform, but it seems that in some specimens the ends have broken off. As in other members of this genus, a Demanian system is not present.

REMARKS. This species is distinguished from others assigned to the genus *Filoncholaimus* in having all three teeth in the buccal-cavity of equal length. Moreover, only in one other species, *F. prolatus* Hopper, 1967, does the male possess a gubernaculum, but it is of a different shape and has a dorsal piece as well as a pair of lateral pieces.

GEOGRAPHICAL DISTRIBUTION. Off West coast of Cape Province, South Africa (present report).

Genus *PONTONEMA* Leidy, 1855

Pontonema yaenae Inglis, 1964

TYPE LOCALITY. Off West coast of Cape Province.

MATERIAL STUDIED.

False Bay : 2♀♀, 1 larva FAL 748 ; 1♀ FAL 832.
West Coast Dredging : 2♀♀ WCD 210.

MEASUREMENTS (in mm).	♀♀	Larva
Body-length	10·00 – 11·30	7·20
Body-breadth	0·22 – 0·25	0·20
Head-diameter	0·07 – 0·08	0·06
Length of oesophagus	1·23 – 1·70	1·10
Length of tail	0·22 – 0·27	0·20
Distance of nerve-ring from anterior end of body	0·50	0·40
Distance of excretory pore from anterior end of body	0·13 – 0·15	—
Anal diameter	0·09 – 0·10	0·07
Distance of vulva from anterior end of body	4·10 – 5·40	—
Length of buccal-cavity	0·11 – 0·14	0·11
Width of buccal-cavity	0·05 – 0·06	0·04
Length of cephalic setae	0·01	0·01

REMARKS. Only female specimens and one larva are present in the samples. They are larger than those described by Inglis (1964) and appear to belong to *P. yaenae* because of the following features : the form of the buccal-cavity, including the size, shape and position of the teeth, amphids and cephalic setae. They also agree with this species in the position of the excretory pore, length and shape of the tail.

GEOGRAPHICAL DISTRIBUTION. Off West coast of Cape Province (Inglis, 1964) ; False Bay (present report).

Pontonema sp.

MATERIAL STUDIED.

False Bay : 1♀ FAL 613.

MEASUREMENTS (in mm).

Body-length	5·90
Body-breadth	0·18
Head-diameter	0·07
Length of oesophagus	1·15
Distance of nerve-ring from anterior end of body	0·40
Distance of excretory pore from anterior end of body	0·14
Length of tail	0·20
Anal diameter	0·10
Distance of vulva from anterior end of body	Not seen
Length of cephalic setae	0·01
Length of buccal-cavity	0·12
Width of buccal-cavity	0·055

REMARKS. This specimen is typical of the genus, but as no males are present it cannot, at the moment, be identified more precisely. The six labial papillae are slightly setose. The amphids are about 11 μm in diameter and situated at about the level of the anterior end of the dorsal tooth.

GEOGRAPHICAL DISTRIBUTION. False Bay, Cape Province, South Africa (present report).

Pontonema sp.

MATERIAL STUDIED.

West Coast Dredging : 1♀ WCD 206.

MEASUREMENTS (in mm).

Body-length	11·00
Body-breadth	0·20
Head-diameter	0·09
Length of oesophagus	1·61
Distance of nerve-ring from anterior end of body	0·58
Distance of excretory pore from anterior end of body	0·18
Length of tail	0·28
Anal diameter	0·12
Distance of vulva from anterior end of body	5·40
Length of cephalic setae	0·01
Length of buccal-cavity	0·13
Width of buccal-cavity	0·07

REMARKS. This specimen is coiled and in very poor condition. Its structure is, however, typical of the genus *Pontonema* but as no males are present it cannot be identified specifically. The cephalic sense organs appear to be typical. The amphids are quite prominent, about 20 μm in diameter, and are situated at about the level of the anterior end of the dorsal tooth. Three eggs are present in the uterus. They measure *c.* 0·30 × 0·12 mm. There are eight rows of cervical setae measuring up to 10 μm in length.

GEOGRAPHICAL DISTRIBUTION. Off West coast of Cape Province, South Africa (present report).

Family **ENCHELIDIIDAE** Filipjev, 1918

Genus ***SYMPLOCOSTOMELLA*** Micoletzky, 1930

Symplocostomella trichostoma sp. nov.

(Fig. 12a–c)

TYPE-LOCALITY. Off West coast of Cape Province, South Africa.

MATERIAL STUDIED.

West Coast Dredging : 1♂ 2♀♀ WCD 86.

SYNTYPES. BM(NH) reg. nos 1975.860–862.

MEASUREMENTS (in mm).

	♂	2♀♀
Body-length	9·01	8·00, 9·90
Body-breadth	0·15	0·29, 0·30
Head-diameter	0·04	0·04, 0·05
Length of oesophagus	1·50	1·41, 1·65
Distance of nerve-ring from anterior end of body	0·50	0·40, 0·39
Distance of excretory pore from anterior end of body	0·09	0·08, 0·09
Length of tail	0·28	0·25, 0·35
Anal diameter	0·11	0·12, 0·12
Length of spicules	0·225	—
Length of gubernaculum	0·06	—
Distance of vulva from anterior end of body	—	4·30, 5·20

DESCRIPTION. *Female.* The body is of even width throughout most of its length. The head narrows a little, while the tail is conical and terminates with a short cylindrical portion, about a third of the total length of the tail. The cuticle appears to be smooth, although in one of the specimens exceedingly fine transverse striations are present in parts of the oesophageal and mid-body regions.

The mouth is surrounded by a cuticular ring, as in other members of the genus *Symplocostomella* and related genera. Around this ring lies a crown of fine seta-like elements, reminiscent of the leaf-crown found at the entrance to the mouth in certain members of the parasitic nematode family Strongylidae. A little further back on the head a crown of six papillae is situated, and lying at 10 μm posteriorly from the anterior end of the body there is a ring of ten setae, each 10–12 μm long. Two of these setae are disposed close together on each of the dorso-lateral and the ventro-lateral surfaces, and a single seta on each lateral surface. There are several uneven longitudinal rows of short setae on the body in the cervical region. In one of the females there are two prominent papillae situated close together on the ventral side, at 0·4 mm from the anterior end of the body. Comparable, but much smaller and less conspicuous, structures have also been seen in the other female specimen at approximately the same position.

The buccal-cavity is large, measuring 60 μm long and 35 μm at its greatest width. It is sub-divided at the anterior end by two rings, which are rather difficult to make out. At about the level of the cephalic setae where the buccal-cavity widens a little, there is a ring of somewhat pyriform cuticular rodlets. Three teeth are present in the cavity, two sub-ventral and one dorsal. One of the sub-ventral teeth is long and spear-like, and arises from the base of the buccal-cavity. The other sub-ventral tooth is smaller and projects from the buccal-wall about halfway along its length. The dorsal tooth is wide with a serrated anterior margin. The apices of all three teeth lie at approximately the same level. Numerous small denticles occur on the wall of the buccal-cavity close behind the ring of cuticular rodlets. The amphids are quite clearly seen and are shaped somewhat like an inverted cup. Just posteriorly to the amphids there are small triangular pieces that appear to be connected to the amphids by a stalk, which may, however, be an artifact.

The oesophagus very gradually widens towards its posterior end, but does not form a muscular bulb. The ventral gland and duct are very prominent and the excretory pore is situated at about one and a half times the length of the buccal cavity from the anterior end of the body.

The ovaries are paired, opposed and reflexed. In one of the specimens two eggs are present in each uterus, and in the other specimen there are three in one uterus and two in the other. They are all approximately of the same size, and the largest measures 0·35 × 0·20 mm. The vulva occurs just a little posteriorly to the middle of the body.

Male. The only male specimen in the sample of this species is in rather poor condition. Although it appears that males of the genus *Symplocostomella* have not been described hitherto, the present specimen does resemble males of closely-related genera. Sexual dimorphism is known to occur in the family Enchelidiidae, and, having been found together, it seems reasonable to assume that this specimen is conspecific with the females described above. The body is about the same length in both sexes, the tail is very similar and the position and prominence of the ventral gland and excretory pore are also similar. The body of the male is, however, rather stout and very gradually tapers towards the anterior and posterior ends, presenting a fusiform appearance.

The head is small and bulbous and separated from the rest of the body by a constriction. There is no crown of fine seta-like elements as found in the female. There appear to be six small papillae surrounding the simple mouth and further posteriorly a ring of ten setae. Two pairs of setae lie close together on the dorso-lateral surfaces and the setae on the lateral surfaces are a little longer than those on the ventro-lateral surfaces. A buccal-cavity is absent and the head is very simple with a few cuticular processes. The amphids are very prominent and different from those in the female. They are cup-shaped, 12 μm wide and 10 μm deep (see (Fig. 12a). Setae occur sporadically in the cervical region.

The internal structures are in very poor condition and may be somewhat macerated. There appears to be a single testis. The spicules are narrow and slender and slightly curved. They are of even width throughout their length. The proximal ends are only very slightly expanded, whilst the distal ends are bluntly pointed. The gubernaculum is simple with a sharp bend in the middle (see Fig. 12c). Extending 0·98 mm anteriorly from the cloaca there is a row of 19 mid-ventral papillae, each with a short seta projecting from it. The tail is very similar in shape to that in the female with a short terminal cylindrical portion. There are short setae scattered on the tail.

DISCUSSION. Micoletzky (1930) erected the genus *Symplocostomella* for a new species, *S. javaensis*, and characterized it by the absence of ocelli and lenses and by the presence of a row of small rodlets at the border of the anterior and posterior portions of the buccal-cavity. Vitiello (1970) reviewed the genus and included a key to the species. Only five species were known at that time, and he divided them into two main groups. In the first group the cephalic setae are greater than 50 per cent of the corresponding head-diameter in length and in the second group they are 40 per cent or less. The present species falls in Vitiello's second group and shows some resemblance to *S. mediterranea* Schuurmans Stekhoven, 1950, in which the excretory pore is about 1·6 buccal-cavity lengths from the anterior end of the body. *S. trichostoma* sp. nov. differs, however, from *S. mediterranea* in being about twice as long, as well as in the presence of denticles in the buccal-cavity, in the shape and size of the amphids and in the ring of seta-like elements around the mouth.

As mentioned above, males of this genus have not been found previously, and the single male found in the present sample appears to belong to the same species of females described above, although it cannot yet be proved conclusively. In general

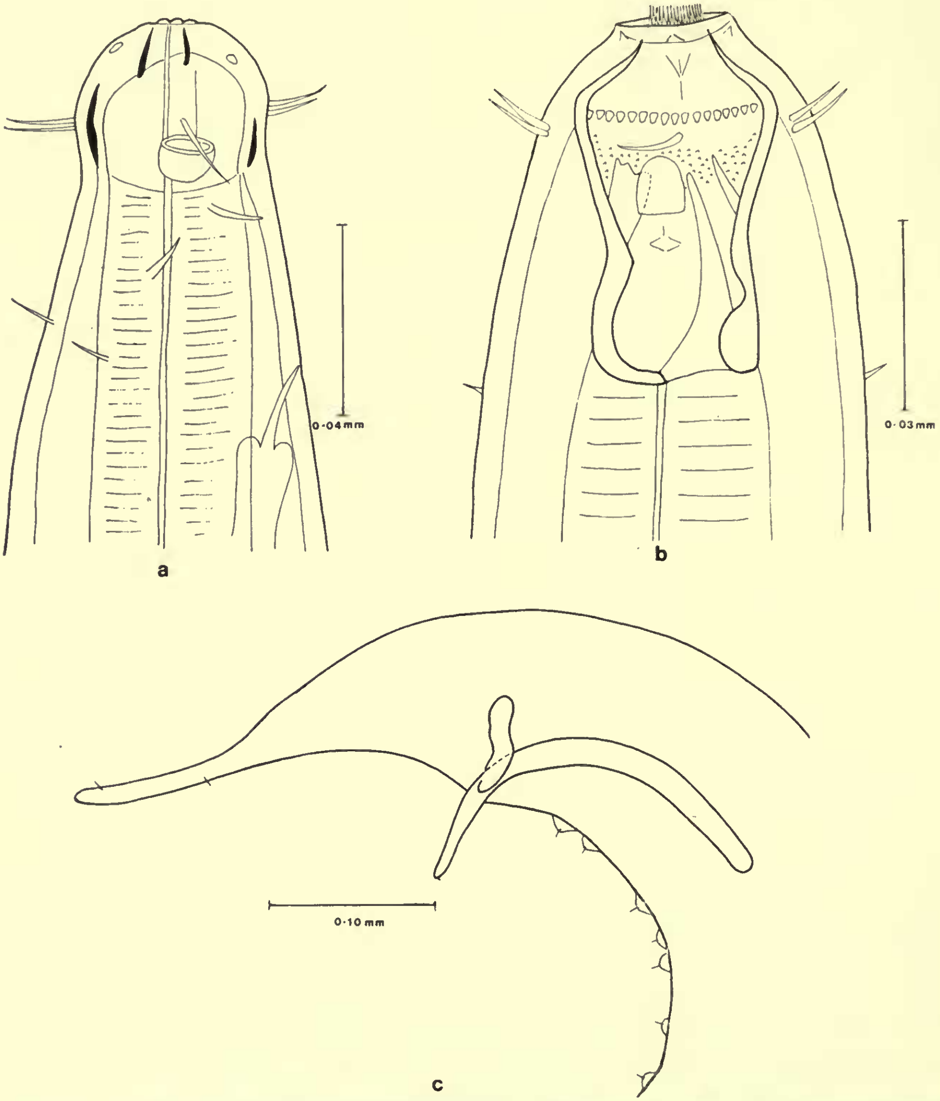

FIG. 12. *Symplocostomella trichostoma* sp. nov. (a) Head of male; (b) Head of female; (c) Tail of male.

form it is similar to other males belonging to the family Enchelidiidae, in which sexual dimorphism is known to occur.

GEOGRAPHICAL DISTRIBUTION. Off Cape Province, South Africa (present report).

Genus *EURYSTOMINA* Filipjev, 1921

Eurystomina sp.

(Fig. 13)

MATERIAL STUDIED.

False Bay: 1♀ FAL 412; 1♀ FAL 422.

MEASUREMENTS (in mm).

Body-length	6·30,	7·40
Body-breadth	0·08,	0·08
Head-diameter	0·05,	0·045
Length of oesophagus	1·30,	1·60
Distance of nerve-ring from anterior end of body	0·26,	0·26
Length of tail	0·08,	0·09
Anal diameter	0·07,	0·05
Distance of vulva from anterior end of body	3·60,	4·50
Length of cephalic setae	0·012,	0·011
Length of buccal-cavity	0·04,	0·035
Greatest width of buccal-cavity	0·032,	0·031
Length of cylindrical portion of tail	0·036,	0·030

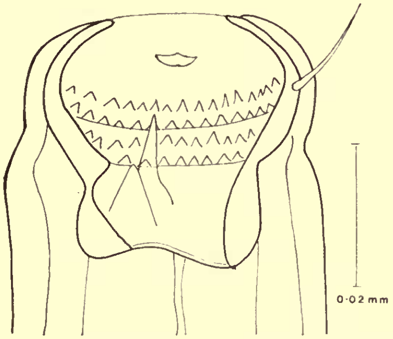

FIG. 13. *Eurystomina* sp. Lateral view of head.

DESCRIPTION. Both specimens are in poor condition. The body is of even width throughout most of its length. The mouth opening is surrounded by a crown of six papillae, and further posteriorly there is a ring of cephalic setae, most of which appear to be missing so that their number and arrangement could not be ascertained. The buccal-cavity is wide and spacious and is divided into two sectors. The anterior sector is wide and surrounded at its posterior region by four transverse rows of denticles – those on the right lateral side are large and gradually become smaller and more numerous towards the left side. At the base of the posterior sector of the cavity there are two dorso-lateral teeth, one a little longer than the other. Cervical setae, *c.* 10 μm long, are arranged in eight longitudinal rows extending to about the level of the nerve-ring. The internal structures are somewhat macerated, but the ovaries appear to be paired and opposed. The tail terminates with a short cylindrical portion.

Until males are found and in good condition, a more precise identification does not seem possible.

GEOGRAPHICAL DISTRIBUTION. False Bay, Cape Province, South Africa (present report).

Genus ***POLYGASTROPHORA*** De Man, 1922

Polygastrophora sp.

(Fig. 14)

MATERIAL STUDIED.

South Coast Dredging : 1♀ SCD 251.

MEASUREMENTS (in mm).

Body-length	6·50
Body-breadth	0·08
Head-diameter	0·02
Length of oesophagus	1·20
Distance of nerve-ring from anterior end of body	0·52
Length of tail	0·21
Anal diameter	0·05
Distance of vulva from anterior end of body	3·70

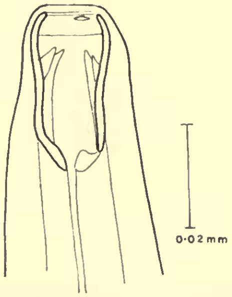

FIG. 14. *Polygastrophora* sp. Lateral view of head.

REMARKS. The only female specimen available is in very poor condition. It appears to be typical of the genus and has six oesophageal bulbs, the first of which commences at 0·87 mm from the anterior end of the body. There are four teeth in the buccal-cavity, two situated dorsally and two sub-ventrally. Cephalic setae were not seen. Only one papilla was found situated laterally near the mouth. Until more specimens are found no more information on this form can be given.

GEOGRAPHICAL DISTRIBUTION. Off South coast of Cape Province, South Africa (present report).

Family **CYATHOLAIMIDAE** De Coninck & Stekhoven, 1935

Gen. et sp. innom.

South Coast Dredging sample: 1♀ SCD 136.
In poor condition. Not considered further.

Family **DESMODORIDAE** Steiner, 1927

Spirinia sp.

False Bay: 2♂♂, 1♀ FAL 684.

Although the specimens are in rather poor condition this species will be included in a review of the genus to be undertaken at a later date.

Family **CHROMADORIDAE** Filipjev, 1917

Parapinnanema sp.

False Bay: 1♂ FAL 725; 1♀ FAL 748. West Coast Dredging samples: 1♀ WCD 196; 1♀ WCD 206.

All the specimens which appear to belong to this genus are in very poor condition and have not been determined more specifically.

HISTORICAL ACCOUNT OF FREELIVING MARINE NEMATODES FROM SOUTHERN AFRICA

Our knowledge of freeliving marine nematodes from southern Africa began in 1908 when Otto von Linstow reported on a collection of nematodes from west and central southern Africa. This report included several species of marine nematodes from Luderitz Bay on the coast of South West Africa. Several years later, Steiner (1918) published a report on marine nematodes from the west coast of Africa, and included four species also taken from Luderitz Bay. No other records of freeliving marine nematodes from southern Africa appear to have been published until 1961. Professor J. Omer-Cooper, whilst on a visit to the British Museum (Natural History) in 1960, brought to the attention of Dr W. G. Inglis a small collection of freeliving nematodes from an interesting locality at the mouth of the Greater Kleinemonde River in the Bathurst District of Cape Province. Although taken in brackish water these forms were found to belong to genera which were otherwise known only from wholly marine localities (Inglis, 1961). A year or so later Professor J. H. Day presented to the British Museum (Natural History) collections of marine animals made by the University of Cape Town Ecological Surveys and included quite a large number of samples of freeliving marine nematodes. These were studied and reported on in two papers by Inglis (1963, 1964). Later Dr W. D. Oliff from the South African Institute for Water Research brought to the attention of Dr Inglis a collection of nematodes from off the coast of Durban, and some of these worms were also studied and reported upon by Inglis (1966).

Reports have also been published on marine nematodes from the coast of Madagascar by Gerlach (1953, 1958). It is very likely that the same species reported by Gerlach also occur along the coast of Mozambique. Nothing appears to be known of freeliving marine nematodes on the coast of Angola.

The following list is of the freeliving marine and brackish water forms reported from the coasts of South West Africa and the Republic of South Africa. They cover a range from as far north as Luderitz on the west coast to Durban on the east coast.

Specimens described or reported as far as genus only are not included.

LIST OF SPECIES REPORTED FROM SOUTHERN AFRICAN WATERS

Order ENOPLIDA Filipjev, 1929

Family **IRONIDAE** De Man, 1876

Pheronous ogdeni Inglis, 1966	Inglis, 1966 : 93. Beach-sand in surf-zone, near Durban.
Thalassironus jungi Inglis, 1964	Inglis, 1964 : 337. West coast of Cape Province.
Trissonchulus janetae Inglis, 1961	Inglis, 1961 : 294. Brackish water, mouth of Greater Kleinemonde River.

Family **TRIPYLOIDIDAE** Filipjev, 1918

Bathylaimus deconincki Inglis, 1966	Inglis, 1966 : 103. Beach-sand in surf-zone, near Durban.

Family **LEPTOSOMATIDAE** DeConinck & Stekhoven, 1933

Anticoma chitwoodi Inglis, 1964	Inglis, 1964 : 324. West coast of Cape Province.
Platycoma sudafrica Inglis, 1966	Inglis, 1966 : 83. Beach-sand in surf-zone, near Durban.
Platycomopsis barba (Inglis, 1964) (syn. *Parabarbonema barba* Inglis, 1964)	Inglis, 1964 : 326. West coast of Cape Province. Present report : False Bay.
Platycomopsis dayi sp. nov.	Present report : False Bay. West coast of Cape Province.
Macronchus shealsi Inglis, 1964	Inglis, 1964 : 328. West coast of Cape Province. Present report : False Bay. West coast of Cape Province.
Deontostoma hopei sp. nov.	Present report : Saldanha Bay, Cape Province.
Deontostoma jae (Inglis, 1964) Hope, 1974 (syn. *Thoracostoma jae* Inglis, 1964)	Inglis, 1964 : 332. West coast of Cape Province. Present report : Saldanha Bay. False Bay. West coast of Cape Province.
Deontostoma parantarcticum Vitiello, 1975	Vitiello, 1975 : 341. Lamberts Bay, Cape Province.
Thoracostoma ancorarium Vitiello, 1975	Vitiello, 1975 : 345. Lamberts Bay, Cape Province. Present report : False Bay, Cape Province.

Thoracostoma angustifissulatum Mawson, 1956	Inglis, 1964 : 331. West coast of Cape Province.
Thoracostoma campbelli Ditlevsen, 1921	Present report : Luderitz Bay, South West Africa.
Thoracostoma zeae Inglis, 1964	Inglis, 1964 : 334. West coast of Cape Province. Present report : False Bay. South coast of Cape Province.

Family **PHANODERMATIDAE** Stekhoven, 1935

Dayellus dayi Inglis, 1964	Inglis, 1964 : 304. False Bay, Cape Province. Present report : False Bay. West coast of Cape Province.
Phanoderma unica Inglis, 1964	Inglis, 1964 : 309. West coast of Cape Province.
Crenopharynx afra Inglis, 1964	Inglis, 1964 : 308. South coast of Cape Province. Present report : False Bay. West and South coasts of Cape Province.
Crenopharynx eina Inglis, 1964	Inglis, 1964 : 306. South coast of Cape Province. Present report : False Bay. South coast of Cape Province.

Family **ENOPLIDAE** Baird, 1853

Enoplus bisetosus v. Linstow, 1908	v. Linstow, 1908 : 27. Luderitz Bay, South West Africa.
Enoplus harlockae Inglis, 1964	Inglis, 1964 : 320. West coast of Cape Province.
Enoplus macrolaimus v. Linstow, 1908	v. Linstow, 1908 : 27. Luderitz Bay, South West Africa.
Enoplus michaelseni v. Linstow, 1896	Inglis, 1964 : 321. West coast of Cape Province.
Enoploides mandibularis sp. nov.	Present report : Saldanha Bay, False Bay. South coast of Cape Province.
Mesacanthoides magna sp. nov.	Present report : West coast of Cape Province.
Afracanthion nudus, Inglis, 1964	Inglis, 1964 : 316. West coast of Cape Province.
Enoplolaimus mus Inglis, 1964	Inglis, 1964 : 312. West coast of Cape Province.
Epacanthion oliffi Inglis, 1966	Inglis, 1966 : 88. Beach-sand in surf-zone, near Durban.
Mesacanthion cavei Inglis, 1964	Inglis, 1964 : 314. South coast of Cape Province.
Mesacanthion ceeus Inglis, 1964	Inglis, 1964 : 314. South coast of Cape Province.
Mesacanthion frica Inglis, 1966	Inglis, 1966 : 87. Sand in surf-zone, near Durban.
Mesacanthion studiosa Inglis, 1964	Inglis, 1964 : 315. West coast of Cape Province.
Oxyonchus ditlevseni Inglis, 1964	Inglis, 1964 : 311. West coast of Cape Province.

Rhabdodemania dura Inglis, 1966	Inglis, 1966 : 91. Polluted sediments in the mouth of Durban Harbour.
Rhabdodemania nancyae Inglis, 1964	Inglis, 1964 : 322. West coast of Cape Province. Present report : False Bay.
Trileptium ayum Inglis, 1964	Inglis, 1964 : 317. West and South coasts of Cape Province.
Trileptium longisetosum Inglis, 1966	Inglis, 1966 : 85. Beach-sand in surf-zone, near Durban.
Thoracostomopsis carolae Inglis, 1964	Inglis, 1964 : 319. West coast of Cape Province.

Family **ONCHOLAIMIDAE** Baylis & Daubney, 1926

Oncholaimus problematicus sp. nov.	Present report : False Bay. West and South coasts of Cape Province.
Oncholaimus spiralis v. Linstow, 1908	v. Linstow, 1908 : 27. Luderitz Bay, South West Africa.
Filoncholaimus capensis sp. nov.	Present report : West coast of Cape Province.
Metoncholaimus murphyi Inglis, 1966	Inglis, 1966 : 95. Beach-sand in surf-zone, near Durban.
Pontonema yaenae Inglis, 1964	Inglis, 1964 : 336. West coast of Cape Province. Present report : False Bay. West coast of Cape Province.
Wiesoncholaimus mawsonae Inglis, 1966	Inglis, 1966 : 97. Polluted sediments in the mouth of Durban Harbour.

Family **ENCHELIDIIDAE** Stekhoven, 1935

Symplocostomella trichostoma sp. nov.	Present report : West coast of Cape Province.
Eurystomina sudensis Inglis, 1964	Inglis, 1964 : 335. West coast of Cape Province.
Polygastrophora omercooperi Inglis, 1961	Inglis, 1961 : 309. Brackish water, Greater Kleinemonde River, Cape Province.

Order CHROMADORIDA Filipjev, 1929

Family **CYATHOLAIMIDAE** Filipjev, 1918

Longicyatholaimus dayi Inglis, 1963	Inglis, 1963 : 342. West coast of Cape Province.
Xyzzors fitzgeraldae Inglis, 1963	Inglis, 1963 : 344. West coast of Cape Province.

Family **CHONIOLAIMIDAE** Stekhoven & Adam, 1931

Choniolaimus wieseri Inglis, 1963	Inglis, 1963 : 539. West coast of Cape Province.

Family **DESMODORIDAE** Filipjev, 1922

Sigmophoranema brevispiculatum (Inglis, 1963) Hope & Murphy, 1972 (syn. *Sigmophora brevispiculata* Inglis, 1963)	Inglis, 1963 : 537. West coast of Cape Province.
Desmodora cuddlesae Inglis, 1963	Inglis, 1963 : 532. West coast of Cape Province.

Desmodora michaelseni Steiner, 1918	Steiner, 1918 : 17. Luderitz Bay, South West Africa.
Desmodora (*Xenodesmodora*) *nini* (Inglis, 1963) Wieser & Hopper, 1967 (syn. *Bla nini* Inglis, 1963)	Inglis, 1963 : 534. West coast of Cape Province.

Family **MONOPOSTHIIDAE** Filipjev, 1934

Nudora omercooperi Inglis, 1961	Inglis, 1965 : 176. In sand from a small spring at Claytons Rocks about two kilometres from the Kleinemonde River, Cape Province.

Family **COMESOMATIDAE** Filipjev, 1918

Mesonchium janetae Inglis, 1963	Inglis, 1963 : 547. West coast of Cape Province.
Mesonchium nini Inglis, 1961	Inglis, 1961 : 301. Brackish water, mouth of Greater Kleinemonde River, Cape Province.

Family **CHROMADORIDAE** Filipjev, 1917

Hypodontolaimus angelae Inglis, 1961	Inglis, 1961 : 305. Brackish water, mouth of Greater Kleinemonde River, Cape Province.
Euchromadora africana v. Linstow, 1908	v. Linstow, 1908 : 28. Luderitz Bay, South West Africa.
Euchromadora dubia Steiner, 1918	Steiner, 1918 : 10. Luderitz Bay, South West Africa.
Euchromadora longicaudata Steiner, 1918	Steiner, 1918 : 15. Luderitz Bay, South West Africa.
Euchromadora luderitzi Steiner, 1918	Steiner, 1918 : 12. Luderitz Bay, South West Africa.
Parapinnanema shirleyae (Coles, 1965) Warwick & Coles, 1975 (syn. *Euchromadora shirleyae* Coles, 1965 *Austranema shirleyae* (Coles, 1965) Inglis, 1969)	Coles, 1965 : 182. West coast of Cape Province.

Order ARAEOLAIMIDA DeConinck & Stekhoven, 1933

Family **LEPTOLAIMIDAE** Oerley, 1880

Plectolaimus juliani Inglis, 1966	Inglis, 1966 : 100. Beach-sand in surf-zone, near Durban.

Order MONHYSTERIDA Filipjev, 1929

Family **LINHOMOEIDAE** Filipjev, 1922

Linhomoeus timmi Inglis, 1963	Inglis, 1963 : 550. West coast of Cape Province.

Family **SPHAEROLAIMIDAE** Filipjev, 1918

Sphaerolaimus anterides Inglis, 1961	Inglis, 1961 : 313. In brackish water, mouth of Greater Kleinemonde River, Cape Province.

OF UNCERTAIN TAXONOMIC POSITION

Rhaptothyreus typicus Hope & Murphy, 1969	Hope & Murphy, 1969 : 81. Off south west coast of South Africa (abyssal).

ACKNOWLEDGEMENTS

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